

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

VOL. I. No. 23

DETROIT, MICHIGAN, AUGUST 17, 1927

PRICE FIVE CENTS

SYNDICATE FORMED TO REORGANIZE ALL SERVEL INTERESTS

Eight Separate Corporations to Be
Brought Together

As a result of financial difficulties which have confronted the Servel Corporation and its subsidiaries recently, and which officials of the company claim are only temporary in character, a plan is being developed for the complete reorganization of all Servel interests which have been divided in the form of eight separate corporations, with manufacturing facilities scattered over a wide territory. Substantial economies will be effected by the plan, it is claimed, and members of the organization express themselves as being confident that the business will be placed on a sound basis for future development. The reorganization committee now in charge consists of George W. Davison, president, Central Union Trust Co., chairman; Nicholas F. Brady; Albert H. Wiggin, chairman, Chase National Bank; C. M. Kittle, president, Sears, Roebuck & Co.; Murray H. Coggeshall, Coggeshall & Hicks, Larkin, Rathbone & Perry will be counsel for the committee.

The first announcement concerning the Servel situation appeared in daily papers, August 4, in which it was reported that a receivership petition was filed in Evansville, Ind., affecting the two Indiana subsidiaries.

The receivership, filed by an Evansville, Ind., printing company, was brought in the nature of a friendly suit, it is said, so that the court would be able to appoint receivers interested in the carrying on of the business, and to prevent the filing of suits by creditors who were unfriendly, thus entailing unnecessary losses.

Claim Assets Exceed Liabilities by \$5,000,000

Liabilities of the Servel Corporation are said to amount to approximately \$4,200,000, and assets are in excess of \$9,000,000. There were no objections to the appointment of receivers.

It is said that the company has outstanding \$5,000,000 of 6 per cent convertible notes issued under a trust agreement of April 1, 1926. These notes will mature April 1, 1931. The trustee is the Central Union Trust Company. Interest amounting to \$1,500,000 is payable Oct. 1, 1927. Among the creditors are Central Union Trust Company, Chase National Bank, Guaranty Trust Company, National Bank of Commerce, and National City Bank.

The assets consist mainly of accounts receivable, interest in the subsidiary companies and patent rights, it is stated. Because the company has been a pioneer in the field refrigerating machinery, it is said to have connections strong enough to guarantee further development of the business.

The capital stock of the parent concern consists of an authorized issue of 1,300,000 shares of common stock, increased from 1,000,000 shares in January, 1927. There were outstanding at the end of the year 756,000 shares, while 200,000 shares were held in reserve for the conversion of notes.

Business to Be Continued Pending Reorganization

Details of the plan for reorganization will be announced shortly, according to Colonel Smith, if plans now being considered by the creditors carry. Business will be continued by the receivers pending the reorganization. In addition to Colonel Smith, they are Courtlandt Nicoll, Frank R. Wilson, and Fred P. Nehrbas.

It is reported that \$3,000,000 will be invested in the Evansville, Ind., branch of the organization, that the plant now located at Newburgh, N. Y., will be transferred to Evansville, as will all offices of the company.

In order to properly protect the interests of the merchandise creditors, and to co-operate and assist in a plan of reorganization, a committee consisting of C. A. Dana, Hale & Kilburn Co., Philadelphia, Pa.; P. D. Berry, American Rolling Mill Co., Middletown, O.; and A. L. Hanson, A. L. Hanson Mfg. Co., Chicago, Ill., was appointed at a meeting of the creditors held in Evansville, August 8. The committee has issued a statement to the effect that as soon as the receivers' auditors have completed their report, which would take about six weeks, a further report will be forwarded to the creditors.

Newspaper Sponsors Denver's First Electric Refrigeration Show



Are Denver people interested in electric refrigeration? They certainly are if the electric refrigeration show conducted in this city during the week of July 10th is any indication. Over fourteen hundred people visited the show during the six days, it is estimated, and about fifteen direct sales were made from the show room.

Hundreds of good prospects were secured from those who attended. The exhibition was given in the space devoted to advertising in the Denver Evening News and Rocky Mountain News Service Bureau. The show was sponsored by these papers and arranged by M. F. Riblett, national advertising manager for these papers.

Six electric refrigerators of different manufacturers were exhibited by local distributors. Each distributor had a salesman representative to explain the machines to the public.

The show was preceded by two days of advertising and ads were run in both morning and evening papers during the period of the demonstration. The publicity announcing the show was signed by the News Service Bureau.

Every ad carried a coupon to this effect, "Clip coupon and mail today. The News Service Bureau. Send me complete information on electric refrigeration. Name, etc." The response obtained by these coupons was very good, and it is believed that a large number of people who could not attend the demonstration took advantage of this opportunity to obtain more information about these modern necessities.

The show room was open from 7 a. m. to 8 p. m. every day except Friday and Saturday, when it was open until 9 p. m. on the former day and 10 p. m. the last night.

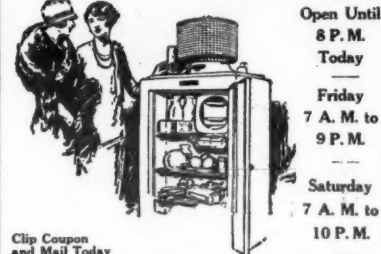
The lower priced refrigerators were the most popular, demonstrators learned. The crowds which attended were made up mostly of middle class people who were really interested in electric refrigeration. They were not enticed by entertainment or free souvenirs. The ads merely appealed to the public to become more familiar with the latest thing in the way of keeping food during the hot days of summer.

Every possible variety of food was stored in the ice boxes in order that the actual keeping qualities of the conveniences could be seen by the visitors.

Electrical Refrigeration SHOW

Being Given Under the Auspices

Of The NEWS Service Bureau
All This Week



Open Until
8 P. M.
Today
Friday
7 A. M. to
9 P. M.
Saturday
7 A. M. to
10 P. M.

Clip Coupon
and Mail Today

The News Service Bureau
720 16th Street
Send me complete information on Electrical Refrigeration.
Name
Address
City State

For Information
Call
CHAMPA
7000

The Public
Is Invited
to the
Daily
Demonstrations

The NEWS
Service Bureau
720-16th St.

This Newspaper Announcement, With Coupon, Brought Good Results

The display window of the show room was devoted to an electric refrigerating unit for the ordinary ice box. The window attracted much attention because of the fact that the unit was in operation and well coated with a delightfully cool-looking frost.

Those responsible for the show were wise in choosing the hot days of July in which to conduct the exhibition, which, by the way, is the first of its kind ever held in Denver, which was sweltering during the week of the demonstration, and the beautiful white electric cases caused many a local man and woman to draw a sigh of relief upon seeing the neatly arranged battery of mechanical ice machines ranged along the wall of the show room.

Local distributors took advantage of the show to run daily ads of their own in which they related the advantages of their particular line of electric refrigerators. These ads were especially interesting to those who had attended or planned to attend the demonstration.

Special Services Offered by Electric Refrigeration News

"Fundamental Principles of Refrigeration," by C. B. Ryan, Jr., and J. F. Henrickson, 20 pages with cover, size 3 3/8" by 6 1/2", ten copies postpaid for \$1.00. Quantity price \$5.00 per hundred copies.

Manufacturers, distributors, dealers and central stations should place this interesting and informative little booklet in the hands of every member of their organizations. While it in no way takes the place of a more complete treatise on the subject of electric refrigeration, it provides valuable information on the subject and will stimulate an interest in further study.

"Causes of Food Spoilage," by C. B. Ryan, Jr., and J. F. Henrickson, 12 pages with cover, size 3 3/8" by 6 1/2", one dozen copies postpaid for \$1.00. Quantity price \$5.00 per hundred.

This booklet is not only valuable to sales and service men, but it is also suitable for distribution to prospects for commercial and household equipment.

"Electric Refrigeration Record and Service Data Card." A file card, size 5 by 8 inches, for recording complete data regarding the installation and service of each machine installed. Price \$2.00 per hundred in any quantity.

This card has been worked out on the basis of practical experience and has been approved by public utility organizations. It is particularly suitable for small companies, having only a limited number of installations and where the cost of printing the required number of cards would be excessive. ELECTRIC REFRIGERATION NEWS has provided this service in the interest of economy and to promote the maintenance of accurate records of service costs.

Reduce Sales Resistance, Say Men Who Sell Refrigeration

Improved Design to Lessen Service Burden and More
Educational Advertising Urged

"We feel that the manufacturers of electrical refrigerators should do everything in their power to design a refrigerator made on the order of the General Electric product so as to eliminate as much service work as possible," says John H. Boos, Jr., of St. Louis, Mo., manager of the electric refrigeration department of the McGraw Electric Appliance Company.

Mr. Boos' letter was in response to one from ELECTRIC REFRIGERATION NEWS, asking a number of distributors, other than central stations, for expressions of opinion from the standpoint of the distributor and dealer. Mr. Boos continues: "Their refrigerator can be installed by anyone with an ordinary knowledge of mechanics, rather than requiring someone who is an expert in the line. This would eliminate quite a little expense on the part of the distributor and small town dealer who cannot afford to have a service man on his payroll."

Mr. Boos states that his own firm has been quite successful this year in distributing the Universal Cooler unit.

TRUTHFUL ADVERTISING APPEALS TO PUBLIC

Superlatives Are Dangerous —
Consistent, Dignified Effort
Pays Best

According to R. C. Hauck of Kelvinator-St. Louis, Inc., one of the biggest problems, and perhaps the biggest one confronting the distributor or dealer in electric refrigeration, is that of promoting the "acceptance" of the idea and the merchandise, i. e., creating a desire for this modern convenience that will over-balance the value the prospect places on the purchase price, for after all that is the sum and substance of a retail sale to a consumer.

This is a fundamental problem and calls for the best efforts of the most experienced and skilled experts available to the manufacturer, for his ultimate success depends upon sales to the consumer.

Our means for arresting public attention and interest is through advertising. This might be termed "The Age of Advertising." No merchandise can be sold in volume without a judicious amount of advertising. Unfortunately a tremendous amount of the money and energy expended in advertising is wasted or wholly out of proportion to the results which might reasonably be expected.

We are among those who do not believe in long, detailed description of the merchandise, nor argumentative dissertations intended to create in the reader's mind a distrust of all other makes of electric refrigeration, except the one who is paying for that particular spot on the page. The public are more intelligent perhaps than we sometimes give them credit for. The American public, be it always remembered, are quick to distinguish between that which is "fair" and "unfair" in sports, and the same instinct will assert itself when they read our advertisement.

Superlatives are dangerous when used in advertisements. They may be indulged in when describing mountain scenery, the results of a fishing expedition, or as representing the individual opinion of a certain one and only girl—but they had best be left out of advertising. Your ad is going to be in stiff competition with much more interesting reading and perhaps more cleverly worded ads of other merchandise.

Concentrate on One Point at a Time

Better say just one thing—make one really interest-arresting, truthful statement, worded briefly and to the point, and usually around the central idea of convenience of electric refrigeration—one or two outstanding advantages of the one you are selling—and let the competition tell the public about his. Don't brag, that sometimes incites contempt. If it is in the newspaper, don't do like the little boy with just one bunch of firecrackers—light the whole bunch at once.

Scatter the money over a month or a year in the form of a distinctive and never-changing size and style—and if possible, same location on the page, offering one thought at a time, and repeating the good points in slightly changed language.

Remember, the public are always more surprised by a dignified statement of an accomplished fact than by any other sort of announcement. Don't overlook a single opportunity to put a sign in front of the house under construction which you have

sold. Don't try to tell the life history of what you are selling—you might be surprised to find how little the public cares. He merely wants to know how he may be benefited by having what you have to offer. Tell him that briefly and to the point, one thing at a time, and keep on repeating it in a forceful, dignified manner.

Remember—all this, after all, is merely background. Your sales are going to be made by salesmen. The best your advertising can accomplish is to reduce sales resistance and make your salesmen's efforts more productive.

CO-OPERATIVE SPIRIT WILL HELP DEALERS

Public Should Be Assured That
Experimental Stage Is
Passed

"As this is a comparatively new industry, we find it going through an experimental stage, and in an unsatisfactory condition to the manufacturer, the distributor, and the dealer," writes D. D. McFarlan, sales manager of the Newbery Electric Corporation, Los Angeles, Cal.

"As we see it at present, there is a competitive market set-up, due to the manufacturers of some makes selling direct to the consumer, with apparently no thought of profit, merely wishing to place their equipment in use so that it will become known on the market, and with no effort on their part to try to sell the value of the article to the consumer or convince the buyer of the advantages of electric refrigeration over former methods.

"An article that is sold on a purely dollar and cents competitive basis, tends to lower the value of it to the purchaser, and if some effort was made by all manufacturers to see that quotations were made whereby the dealer realized the profit in proportion to the service rendered by him, sales effort would immediately be assisted and the sales could be made on a constructive plan in place of a purely competitive price bid proposition.

"We find that the public has accepted the idea of electric refrigeration as necessary for the completion of up-to-date homes and apartment houses in this locality. But we feel that a great deal more work should be done by the manufacturer to promote the assurance that we have passed through the experimental stages and that the service will not be too costly and that the cost of operation is not prohibitive."

This could be done, Mr. McFarlan believes, by a national advertising sales representative, who could come into a territory to address meetings and interview architects and builders. He also says that sales policies should eliminate the knocking of competitors, following if possible the example set by the automobile industry.

"We feel that the worst is now over," he concludes, "and that the future should show a spirit of co-operation. When this is done, we feel that electric refrigeration will be a more attractive line for other dealers to enter into."

CUT PRICE A POOR WAY TO ADVERTISE

Illinois Dealer Deplores This
Method of "Getting a
Start"

An Illinois dealer who handles electric refrigerators, oil burners and a number of other products and appliances for the home, and who was pointed out as a particularly successful merchandiser, was requested by ELECTRIC REFRIGERATION NEWS to give his views on the present practices on the sale and distribution of electric refrigerators. His reply is printed below. We regret that this dealer prefers that his name be not mentioned.—Editor's note.

"We have hardly been in the electric refrigeration business long enough to justify our commencing to give advice. However, there is one thing that we notice in this business that is different from any other we have ever handled.

"Some of the distributors think that it is a wonderful opportunity to put forty or fifty boxes in a certain apartment building at cost, and charge their loss up to advertising. Then the same habit creeps into a sale where an influential individual is concerned. Personally, I can't see any advan-

Formed condenser coils
No scale. Smooth inside. Formed and fabricated to your order. Write for Prices.
1431 Central Ave., Detroit, Mich.
WOLVERINE
SEAMLESS COPPER AND BRASS TUBING

tage in this kind of merchandising. I maintain that all goods should be sold at a profit and no merchant is a reputable citizen unless he can sell his goods at a profit, and it is up to him to advertise his goods through a medium that he thinks will promote his business to the maximum.

"On inquiry I find this is quite a habit in the electrical refrigeration field—giving goods away for advertising purposes. Other prospects learn of this custom and demand substantial cuts in price. It is only a matter of time until the business itself will be made a football; it will be used as a sideline, kicked about to promote other industries. Whereas, if the man or firm selling this commodity are real merchants, the business of selling electric refrigerators could be held on a profitable plane.

"How this can be remedied is beyond me, unless the manufacturers themselves, instead of subsidizing, frown upon it and compel them to retail at a profit. As it is now, one man sells in this way until he is broke and some other individual thinks he is a little smarter and the game is repeated all over.

"Promoting acceptance and finance plan is not very difficult. That is a simple matter and can be handled locally or through a financing corporation.

"It is an evil that is going to put the refrigeration business on the same plane with washing machines. One dollar down and 50 cents when you catch them. I actually believe it is difficult for the manufacturer of washing machines to get the same type distributor they did five years ago. This is brought about solely by rotten and ignorant business methods."

Wayne Company Announces New San Francisco Office and Showroom

The Wayne Company, Fort Wayne, Ind., has announced a San Francisco office and showroom in the Chronicle Building, 911 Mission Street. The change provides better facilities and enlarged space, and the electric refrigerators manufactured by this company are introduced at this time to the San Francisco market.

Knoxville Has Co-operative Cooking School—3000 Attend

Approximately 3,000 women attended a three-day cooking school recently in Knoxville, Tenn., says the *Retail Ledger* in its first August issue. The school was a co-operative one, in which electric refrigerator dealers, furniture dealers, grocers, drug and hardware storekeepers, combined with the local power company. The demonstrations were held in a theatre.

In Austin, Tex., there has also been a co-operative display of home equipment used to educate prospective buyers. Five firms arranged the kitchen display, each contributing its specialty to the exhibit. The displays were tied up with demonstrations and with personal advertising.

Pioneer Joins General Refrigeration Company

Wm. H. Schladitz, a member of the A. S. R. E. and well known in the refrigerating machine business since 1908, has recently become connected with the Chicago office of the General Refrigeration Company.

Mr. Schladitz has pioneered in the introduction of small refrigerating machines in this country as well as in Cuba, South America, and recently in Mexico, where he spent some months in introducing the Servel machine. During more than eighteen years of activity in this field he has handled the Brunswick, Remington, Jack Frost, United Refrigeration Company and Servel machines, and has specialized chiefly in commercial applications.

"That Refrigerator Door" as Viewed by Tony Sarg

Able Artist Illustrates Ellis Parker Butler's Amusing Story in the July American by Showing the Trials That Come to an Average American Family When the Refrigerator Door Refuses to Latch.



"Now and Then on Thursdays, Mr. Wimper Would Find Mrs. Wimper Knitting in the Kitchen Instead of Sitting on the Porch," says the Picture Above



"The Trouble is That Nobody Shuts the Door Properly. Now, Watch Me," says Mr. Wimper. And the Door Would Immediately Fly Open



Mr. Wimper Always Knew Exactly What That Door Needed—"Filed Down Here and the Screws Tightened Here," He'd Say. The Result May Be Seen Just Above

"That Refrigerator Door," whose clever illustrations *ELECTRIC REFRIGERATION NEWS* has used through the courtesy of Mr. Sarg and the *American Magazine*, shows in

other ways the importance in the average American home of the best in modern refrigeration.

The trials that come to a family who are

the possessors of a refrigerator with a door which refuses to fasten is told in the entertaining story from which illustrations are shown. The Wimpers are an average

American family in size, taxes, home and mortgage, and except for the latch on the door of the refrigerator, Mr. Butler tells us, they would have been one of the happiest families in America.

But they were not, because in the four or five years in which the refrigerator door had been flying open, Mr. Wimper had fixed it thirty or forty times himself, the plumber had mended it, a keymaker had mended it, a traveling scissors grinder had mended it, and so had a bicycle repair man, a blacksmith, a furnace man, a lawnmower sharpener; in fact, it had even been to the factory. And all of the mending was surely destroying the happiness of the family.

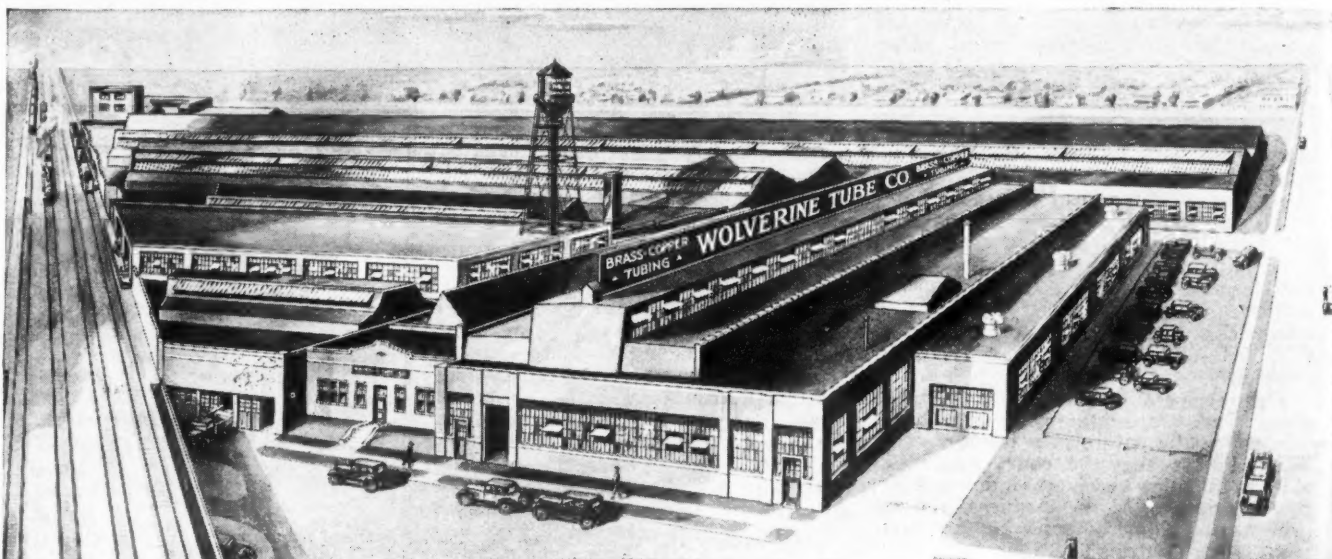
"When a woman first begins to lose her love for a man she first begins to find flaws in his character," says Mr. Butler, and after explaining this epigram, he says:

"The truth is that when a woman begins to lose her love for a man, it is usually because she has seen and heard him mend the latch of a refrigerator door, and a man usually begins to lose his love for a woman because she can't keep the door latched after he has mended the latch. Woman's privilege is to believe men can mend latches; man's privilege is to expect women to be able to work the latches he has mended."

ELECTRIC REFRIGERATORS SHIPPED IN MAY

Figures from the Bureau of Foreign and Domestic Commerce, Washington, D. C.

Countries	Number	Dollars
Austria	60	7,533
Belgium	92	6,007
Denmark and Faroe Is.	12	2,249
France	57	8,232
Germany	20	4,567
Greece	25	1,995
Italy	4	502
Netherlands	21	3,008
Norway	3	555
Spain	36	6,733
Sweden	24	3,371
United Kingdom	666	104,969
Canada	781	109,240
Costa Rica	1	265
Guatemala	7	2,096
Honduras	1	724
Panama	6	3,090
Salvador	5	992
Mexico	14	5,552
Bermuda	12	1,586
Dominican Republic	12	875
Dutch West Indies	2	680
French West Indies	1	206
Haitian Republic	4	761
Argentina	50	5,278
Brazil	137	24,714
Chile	3	500
Colombia	9	916
Uruguay	5	1,634
Venezuela	4	1,217
British India	65	9,947
China	4	1,884
Java and Madura	5	971
Hongkong	16	1,991
Philippine Islands	132	16,478
Siam	8	1,192
Syria	2	418
Australia	189	35,807
New Zealand	3	591
British East Africa	1	514
British South Africa	10	3,538
Egypt	12	1,933
Algeria and Tunisia	12	859
Total	2,533	386,170



The Wolverine Tube Company, Detroit, Michigan

HEADQUARTERS for Seamless Copper Tubing and Condenser Coils

This great mill is especially equipped to produce Seamless Copper Tubing for use in the production and installation of Mechanical Refrigerators. And the manufacturing division is tooled up for quick production of complete Condenser Coils.

Close contact with the industry from its infancy has given our organization a sound understanding of your requirements. Consequently we deliver perfectly drawn tubing which is annealed bright—clean inside and outside and absolutely free from scale.

We maintain a stock of sizes you use—ready for immediate shipment by rail, boat or motor truck. Write for prices.

WOLVERINE TUBE COMPANY
1431 CENTRAL AVENUE DETROIT, MICHIGAN

Chicago
129 S. Jefferson St.

Cleveland, Ohio
602 Hunkin-Conkey Bldg.

Rochester, N. Y.
206 Central Trust Bldg.

WOLVERINE TUBE

SEAMLESS COPPER

Members of
Copper & Brass Research Association



& BRASS TUBING

Standard Sizes
of Copper Tubing Carried in Stock



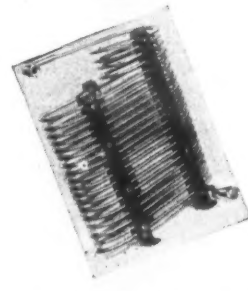
Wirfs Gasket assures Electrical Refrigeration Efficiency

An electrical unit can only be as efficient as the box in which it is installed. Poor door contacts on wood or metal boxes mean that any unit will have to operate a greater number of hours to maintain an efficient refrigeration temperature. This means added operating cost.

Wirfs PATENTED "AIRTITE" Gasket

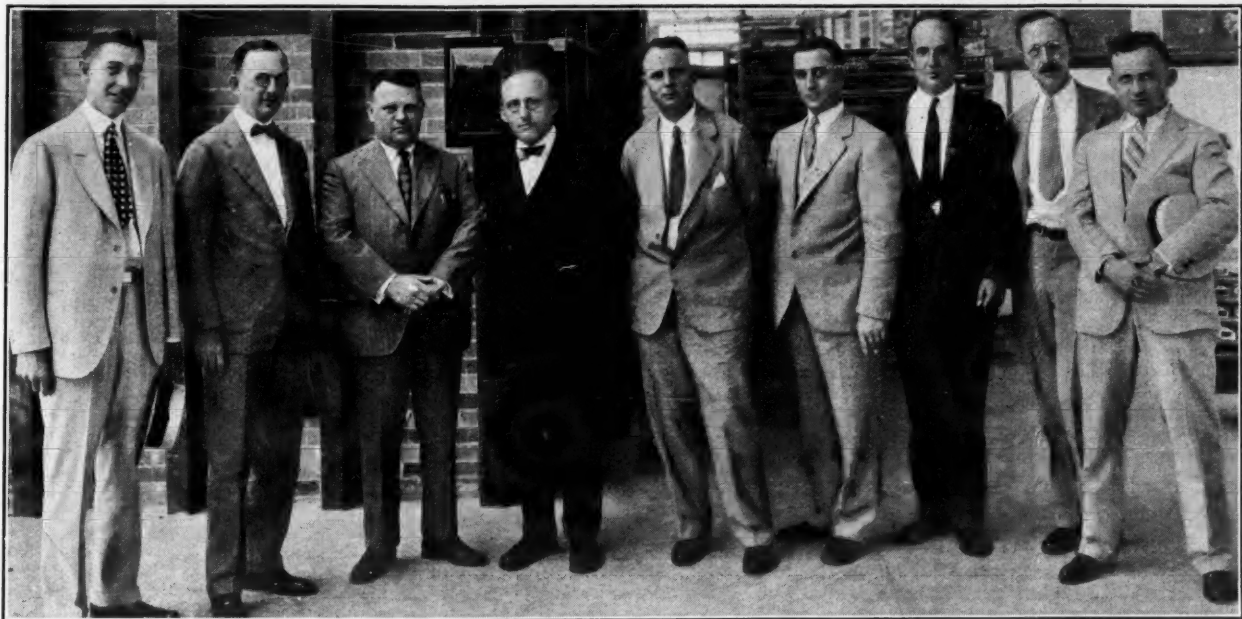
Keeps the cold air in and the warm air out and maintains the proper zone of refrigeration with fewer operating hours. Wide awake dealers have found that it usually clinches the sale. Most manufacturers supply boxes equipped with Wirfs; write us for their names and a sample.

E. J. WIRFS ORGANIZATION, Inc., 135 S. 17th St., St. Louis, Mo.



Many leading producers use Wolverine Tube and Wolverine-made Condenser Coils.

Representatives of Servel and Southern Guests Make Trip Through Evansville, Ind., Plant of the Company



The accompanying photograph was taken in the enameling plant of the Servel Corporation, Evansville, Ind. Reading from left to right are F. S. Fenton, Jr., merchandise manager, in charge of sales and advertising, Evansville; H. W. Parrish,

Jr., manager appliance division, Alabama Power Co., Birmingham; R. F. Theis, factory manager, Evansville; F. P. Nehrbas, vice-president in charge of production, Evansville; H. W. Matthews, president, Matthews Electric Supply Co., Birming-

ham, Ala.; L. W. Driscoll, division manager, Servel Corp., Atlanta, Ga.; Heeman Ely, Jr., office manager, Servel Corp., Chicago; R. W. Foley, sales promotion manager, and C. A. Miller, general service manager, both of the Evansville, Ind., plant.

Cabinet and Unit Manufacturers Give Opinions On Selling Electric Refrigeration

"In an endeavor to uncover the true factors preventing the most rapid possible sales development of electric refrigeration," the editor of *Electric Light and Power Magazine* secured from manufacturers of refrigerating units and of cabinets, and also from commercial executives of electric service companies their opinions and experiences. In the August issue of the magazine the first of a series of this symposium on the selling of electric refrigeration is printed. It is entitled "What the Manufacturers Think About It," and brief summaries or parts of manufacturers' opinions as expressed in that article follow.

Manufacturer A believes that the power company should sell electric refrigeration, not as a duty, but to make money. The business should be set up on the same basis as any retailer's business and not on a basis to undersell the retailer. The company should use its opportunity to show the retailer how the job should be done, and should, in smaller towns, arrange servicing for the several retailers.

Manufacturer B has four suggestions for the utilities to adopt: That they make a laboratory test of an electric refrigerator before the company approves it; that the utilities should organize and carry on comprehensive advertising of the electric refrigerators which they approve; that they should merchandise one or more makes, and that they should not make deferred payments on such liberal terms that a strong sales resistance is set up for the retailer; and that the N. E. L. A. could well afford to have a permanent organization whose sole work would be the investigation of electric refrigeration and its promotion.

Public acceptance would be promoted, Manufacturer C says by proper install-

ation, no overselling of distributors, trained men for service working for utilities and charging a nominal price, and a handbook giving the arguments for electric refrigeration, prepared by the N. E. L. A.

A standard test code set up by the N. E. L. A. for household and small commercial machines is suggested by Manufacturer E.

Manufacturer G says that the salesman for electric refrigeration needs far more training than the salesman for any other electric appliance. Mr. H says that architects should be interested by the manufacturers and utilities in order that they would specify electric refrigeration.

"It's a big job," Manufacturer I says, and expresses himself as believing that it will take intelligent far-sighted study of the situation to solve its commercial problems. Price-cutting comes in for criticism by J. K says that the power companies must build the domestic load.

That the individual utility should lend its support to more than one manufacturing company would be a good thing in the opinion of Manufacturer L.

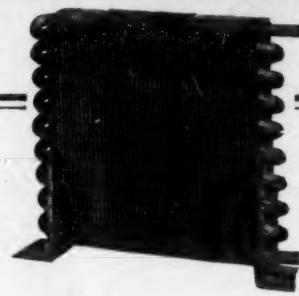
The cabinet must be worthy of the unit put into it, M says, while Mr. N hopes for the bringing together of the cabinet manufacturer and the unit manufacturer along engineering lines that they may work for standardization.

A cheap cabinet and an electrical refrigerating unit go together as well as Swiss watch movements and a dollar case, according to Manufacturer S. Other cabinet manufacturers speak in the same way.

Manufacturer U, the last to speak in the article, deplores the buying of too small plants for the uses to which they are to be put, this fault arising from the fact that men are selling electric refrigerators who do not understand refrigeration problems in the least.

"June 22nd Issue Very Valuable"

"Your June 22nd issue is a very valuable one because of its comprehensive discussion of the entire industry, and we wish to send a copy to each of our salesmen."—Charles M. French, Chicago Mill and Lumber Company, 510 North Dearborn Street, Chicago.



Flintlock Condensers Are Uniformly Efficient

Because: The fin is an integral part of the Tube

Our Booklet Tells the Story
Write for It

FLINTLOCK CORPORATION

4461 Jefferson Avenue
Detroit, Michigan

Thousands of Food Merchants Know by Experience

HERE is a new McCray case which attracts trade by making it easier to shop. It builds sales by displaying appetizing foods in a tempting manner. It speeds up service, cuts out spoilage, reduces expense and increases profit, as thousands of food merchants know by experience.

The McCray No. 103, used with mechanical refrigeration of any type, or with ice, keeps perishable foods perfectly in their original freshness and flavor. And the cost of operation, with either machine or ice, is exceedingly low, as any user will tell you. More than a third-of-a-century's

experience is embodied in this new McCray case. For every refrigerator need there is a McCray model of suitable size and style, not only in stores and markets, but in hotels, restaurants, hospitals, institutions, florist shops and homes, as well.

PURE CORKBOARD INSULATION, sealed with hydrolene cement, insures perfect air-tightness, efficient refrigeration. All McCray models may be used with any type of mechanical or electrical refrigeration. Whatever your need, send now for complete information about McCray equipment to meet your specific purpose.

Food Merchants, ask about our easy payment plan
McCray Refrigerator Sales Corporation
Dept. 66, Lake St., Kendallville, Ind.

McCRAY

REFRIGERATORS

Here's what a big refrigerator company says about Ferro Double Strength Cleaner

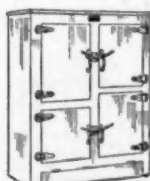
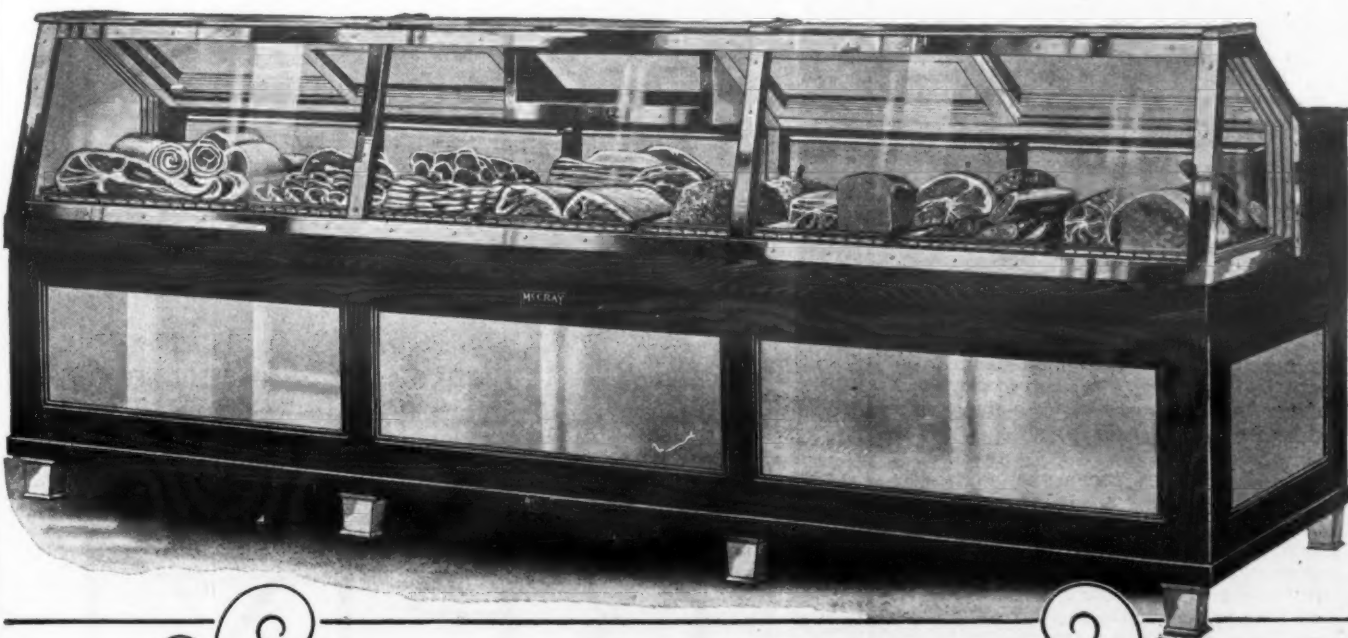
"We are glad to add our word for Ferro Double Strength Cleaner, as we have been using this material for about six months and have secured very satisfactory results."

ILLINOIS REFRIGERATOR CO.
H. J. RENDALL, Secretary

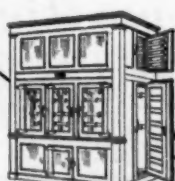
We guarantee our cleaner better and cheaper for use in cleaning sheets for enameling. Try a barrel.

111

THE FERRO ENAMEL SUPPLY COMPANY
CLEVELAND, OHIO



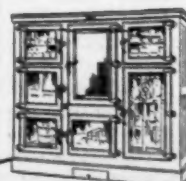
A New Model for Homes



Popular Cooler for Markets



For Hotels, Institutions, etc.



For Grocery Stores



For Florist Shops

HARDWARE FIRM ADDS ELECTRIC REFRIGERATION WITH GOOD RESULTS

H. C. Ross, of Jackson, Tenn.,
Tells How McGee-Ross Co.
Handles Sales

The sale of approximately \$10,000 in electrical refrigeration units in the first three months, coupled with the belief that volume of \$50,000 or more would be made during the current year, tells briefly the story of the experience of McGee-Ross Hardware Company, of Jackson, Tenn., with this line.

A relatively light stock consisting entirely of household units, is required, with no more than four to five cabinets on hand at any one time, according to H. C. Ross, and a 12-time turnover on this stock is anticipated in 1927. Commercial units, which up to the time Mr. Ross was interviewed had comprised the bulk of his company's sales, always are sold before they are ordered.

"It is true that the margin is small on electric refrigeration, but so is the investment, and with the large turnover there is a good profit to be made," said Mr. Ross. The line was first taken on in August, 1926, but for the first few months not a great deal was attempted with it, the store being engaged in tests on the totally strange line and arranging for active selling early in 1927. Thus, pushing the line did not start until January 1, 1927, while the campaign which has resulted in the sales mentioned, did not get under way until mid-February.

Made Separate Organization

The first step was to establish a separate organization within the store. A separate sales manager was put in charge, whose sole duty it is to push electrical refrigeration. He has an assistant and one other salesman. The manufacturer co-operates with the store in the matter of newspaper advertising and billboards, but this line is one requiring personal selling effort. While many prospects have been obtained through the advertisements, few sales have been closed largely through that medium.

One of the preliminaries to the campaign was a canvass of the city by two young men who by house-to-house calls obtained the names of many prospects, on whom cards were made for later follow-up work. Other prospects have been obtained through the store, where at least one household model has been kept hooked up for immediate demonstration, while one show window has been devoted almost entirely to the line.

"In following up our prospects, we have been learning how to sell this line," continued Mr. Ross. "In going after a household prospect, it is necessary to appeal to the home owner on the grounds of convenience, sanitation and uniform service, rather than from the standpoint of saving.

All Details Figured in Advance

"On the other hand, the commercial units can be sold on the basis of monthly saving in the ice bill. Thus, in the early stages of soliciting a commercial sale, our refrigeration salesman gets complete data on the amount of ice purchased, gauges the drip in the ice pan in order to figure waste, and acquaints himself thoroughly with the individual case. He likewise figures the maximum and minimum temperatures required by the particular type of business and the sort of equipment that must be used to meet this requirement.

"Every detail of the installation is figured in advance, including cost of the installation and operating cost. This means that sales resistance has been largely torn down at the outset of the campaign. With such accurate data in hand, the salesman appeals to the store owner from the saving standpoint, coupled with better refrigeration and superior service.

"Because commercial installations are more profitable, as well as to get the line well established in the community, we have devoted most of our effort up to early May to that end. Now we are planning intensified effort on household units, as well as commercial ones.

Many Sales on Time Basis

"At least 75 per cent of our sales have been on terms established by the finance branch of the manufacturer, which handles the paper. Prices are quoted by the salesmen upon the assumption that the deal will be handled on time, but where a customer can pay cash, we can give a nice discount so that cash payment is a real object.

"Household and commercial units generally are handled on 18 months' terms, though 24 months may be allowed on commercial installations. A 20 per cent cash payment is the minimum, and we always try to get as much more as possible. As we have to indorse the paper ourselves, you may rest assured we are careful in the matter of extending credit.

"We have a factory-trained man in charge of service, and the installment price includes a 12-month service fee, figured in. We pay our service man a salary and figure that on commercial connections we make a profit, but only break even on household installations.

"We have learned that it takes time to make the proper sort of an installation, and we insist upon that sort. We consider

it better business to have the service man give all the time necessary to installation, for this means both customer satisfaction and avoidance of having to return to adjust minor matters which should have been attended to in the first place.

"After the first 12 months we shall place a regular service charge to cover the cost of the trip and leave a small margin, on each call. But in this line as in every other that we sell, we feel sure that proper installation, coupled with careful instruction of the customer in use of the equipment, plus the service behind the goods, will mean keeping the customer satisfied." From *Southern Hardware*, July, 1927.

Colleges Add Electrically Driven Refrigerating Machinery for Extension Work and Tests

The Georgia Institute of Technology at Atlanta has completed the installation of a complete electric driven refrigeration plant to which was recently added a domestic refrigerating unit furnished by the Frigidaire Corporation.

Refrigerating is finding its way into other curricula in the South. The University of Florida is installing a refrigerating test plant, and the University of Tennessee is developing extension work in refrigeration, according to *Refrigerating Engineering*.

Old Principle Used in New Way

There has recently been placed on the market a modified ice refrigerator arranged to receive a metal brine in which a mixture of salt and ice is placed, the amount of salt depending upon the temperature desired in the refrigerator, according to *Refrigeration*.

The novel method of this refrigeration is that small cubes of ice are frozen in metal pans in the same manner that ice cubes are frozen in the domestic electric refrigerator. This principle is old in its use with refrigerating machinery, but is new as applied to household refrigeration.

Advises Dealers and Salesmen to Take "News"

"Your magazine has been a great help to me. I always advise my dealers and their salesmen to subscribe to it."—C. C. Woolley, the Wayne Company, 154 Cambridge Street, Boston, Mass.

Received With Acclaim

"I am sure you will be pleased to learn that *ELECTRIC REFRIGERATION NEWS* is being received here with acclaim and is heartily recommended by all who see it."—Benjamin Carleton Reber, San Antonio, Texas.

Protecting Reputations

The leading manufacturers of electric refrigerators use Novoid Corkboard to insulate their equipment. Since reputations depend on operating efficiency only the finest sort of insulation meets their requirements. They find Novoid Corkboard high in insulating value, easy and economical to use, and uniform in quality. Perhaps you, too, can make effective use of this high grade corkboard. May we send you a sample and a copy of Bulletin 271-E?

Novoid Corkboard Insulation

CORK IMPORT CORPORATION
345 W. 40TH ST. NEW YORK

"Permanent Protection for All Refrigeration"

ATLANTA BOSTON BUFFALO CHICAGO PHILADELPHIA ST. LOUIS



PIONEERS from THE WEST

Electro-Kold was first to (1) put the fan in the flywheel; (2) make an open frost tank.

The Electro-Kold Corporation, Spokane, Wash., U.S.A.

ELECTRO-KOLD

The Simplest Electric Refrigeration
Trade Mark Reg. U. S. Pat. Off.

Two More "Sealtite" Models

Kelvinator Scores Again!

EARLY in January the "Sealtite" Cabinet Kelvinator was introduced. Pioneer in domestic electric refrigeration, Kelvinator pioneered again with a cabinet which brought electric refrigeration to every home.

Now, there are two new "Sealtites."

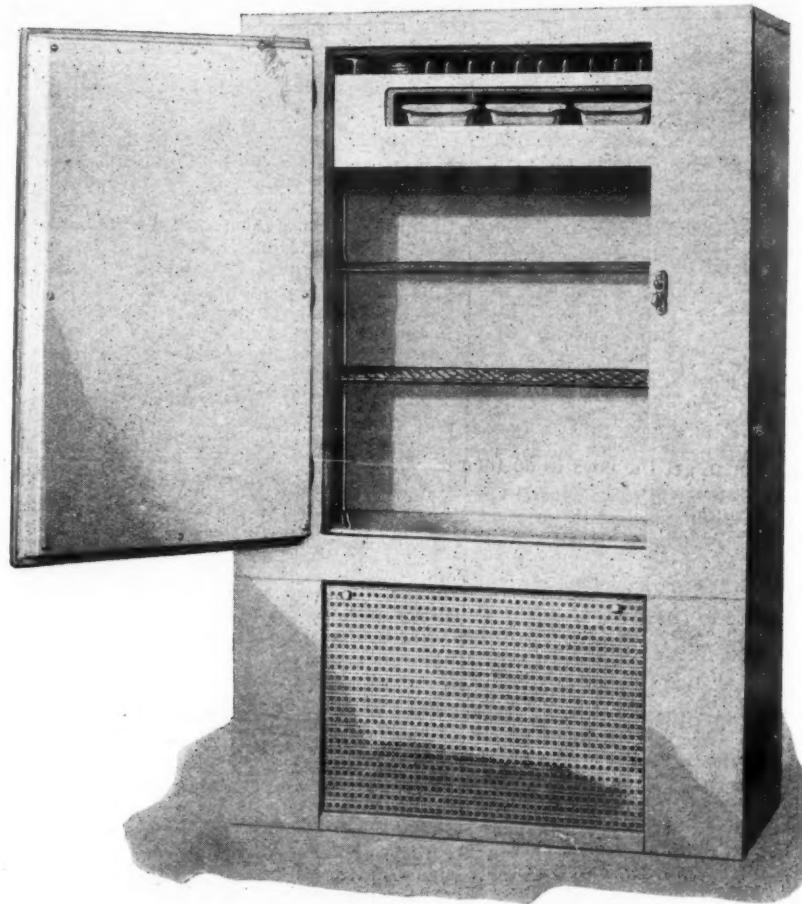
All three models are built to last a lifetime. Each is built of steel with 2 inch insulation of corkboard. All exterior hardware is of triple nickel plated brass. There is no possibility of warping and cracking, even in the most trying climate.

They are easy to move about—require little floor space—fit in anywhere—easy to clean.

A convenient finance plan of deferred monthly payment is available through the Refrigeration Discount Corporation by which you can enjoy Kelvinator immediately.

Model 272, introduced first, is finished in gray lacquer with interior of white enamel on pure rust proof iron. It has 7 sq. ft. of shelf space—ample for the small home or apartment.

Model 273 is identical in size and shelf space with Model 272. It is finished in



Model 298

snow white lacquer, with interior lining of porcelain on rust proof iron.

Model 298, shown here, is larger than the other two "Sealtites" and has a shelf space of 9 1/3 sq. ft. It was developed to meet the needs of those who wanted a larger model of the same construction. Its exterior is of snow white lacquer and the interior is lined with porcelain.

Models 272 and 273 have 2 freezing trays in which 30 cubes of ice can be frozen at one time. Model 298 has 3 trays in which 45 cubes of ice can be frozen at one time.

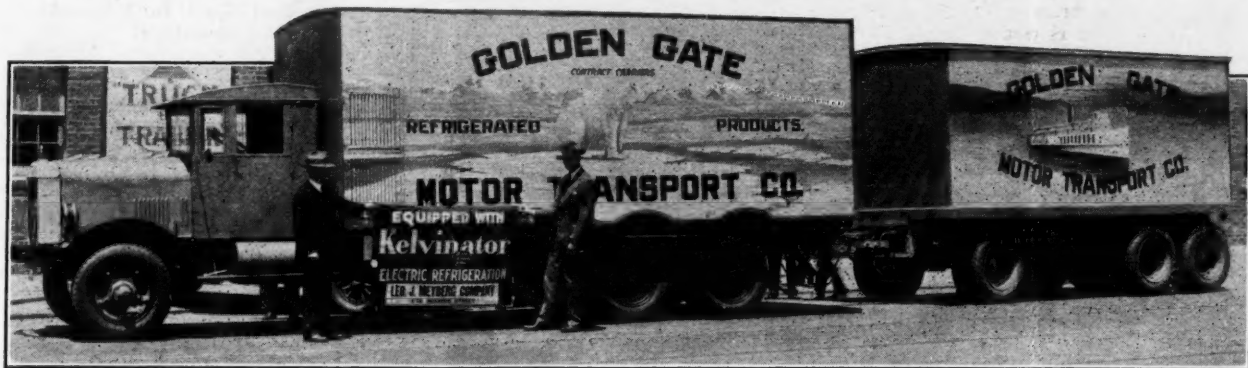
Kelvinator

Oldest Domestic Electric Refrigeration

12354 PLYMOUTH ROAD, DETROIT, MICH.

Better
Always Better

Golden Gate Transportation Company Uses Electric Refrigeration in Trucks and Trailers that Carry Perishable Goods in Sacramento Valley



Mammoth Automotive Equipment Refrigerated by Kelvinator

There is operating between San Francisco and points in the Sacramento valley a motor truck service which has the distinction of being the only one of its kind in the world.

This distinction comes from the fact that the vans of the big vehicles are provided with a refrigerating plant that makes possible transportation through the heat of the valley of commodities so perishable that heretofore only railroad express or freight service refrigerator cars could be used.

Started about two months ago as a subsidiary of the Golden Gate Ferry Company, and known as the Golden Gate Motor Transportation Company, the enterprise is engaged in a contract carrying business that has become so great that increase in facilities is demanded and will be met shortly. Butter, eggs, beef and veal constitute the principal business of the new line.

At present there are in operation two big trucks, each carrying a trailer and each combination capable of transporting twenty-one tons of freight. A twelve hour

service is maintained, the trucks making the bay trip on the boats of the Monticello Steamship Company, another Golden Gate Ferry Company subsidiary, operating from San Francisco to Vellajo.

Both Units Equipped

Both truck and trailer have the refrigerating system.

The two trucks, especially designed by the Fageol Motors Company, are equipped with 120 horsepower motors. Westinghouse airbrakes are on both truck and trailer, built by the Reliance Truck and Trailer Company, Inc., the equipment of the latter unit being an innovation and permitting of control similar to that of steam trains. The combination of Fageol truck and Reliance trailer comprise a total of twenty-two pneumatic tired wheels. The trucks are equipped with dual drives and are otherwise the last word in mechanical equipment, provision for every contingency of demand for power, speed and durability having been incorporated in their construction.

The Kelvinator refrigerating system is

operated independently of the truck power and maintains in the vans a temperature of 34 degrees. Sustaining this temperature is aided by six-inch cork walls in the vans.

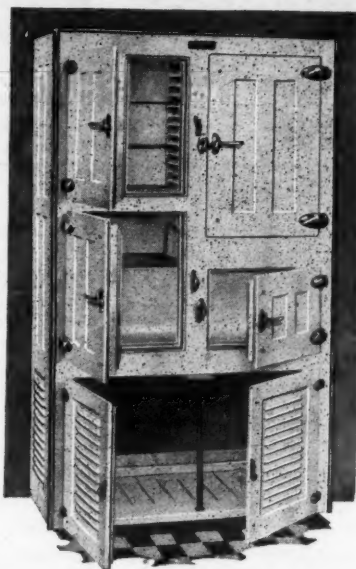
Meat Hangs From Roof

Another innovation is an arrangement by which nine tons of beef or veal can be suspended from the roof of the truck. This is one of the things once termed an impossibility. It contributes greatly to the efficiency of the transportation of such commodity, for each animal hangs free and complete circulation of chilled air is possible, whereas before this innovation the carcasses were piled one on the other greatly to the detriment of the meat.

Each combination of truck and trailer represents, ready for the road, an expenditure of \$13,000.

More trucks and trailers identical to those now in use are to be put into operation, and it is possible that the territory covered will include the Santa Clara and the San Joaquin valley districts before long.

BOHN SYPHON REFRIGERATORS



Beautiful, Distinctive. Can be had in 7, 9 and 12 cubic foot net food storage capacity.

White Porcelain Enamel inside and outside. The machine compartment is ideal for storage space where remote installation is made.

For Electric Refrigeration

Write for Full Particulars

Bohn Refrigerator Company

SAINT PAUL, MINNESOTA

These Models are on Display at our own Stores in

NEW YORK
5 E. 46th St.

CHICAGO
227 No. Michigan Blvd.

BOSTON
707-709 Boylston St.

System Used by Denver, Colo. Firm Assures That Periodicals Reach Those Who Should Read Them

The distributor of electric refrigerators, employing a large staff of salesmen, a goodly sized service department and accounting department, usually recognizes the value of subscribing to various business magazines and technical periodicals dealing with salesmanship, accounting, problems in refrigeration construction and installation, and circulating these magazines among his staff that they may gain business building ideas therefrom.

Unless a system is employed, it sometimes is difficult to get the boys to do their reading. A system that has come to our attention is that used by the Alexander Industries, Denver, Colo., and it is one that can readily be applied to any electric refrigeration company with practically no change, unless, perhaps, it is the assignment of some one person to look over the various periodicals and select the articles that should be passed along to other members of the organization.

In the Alexander Industries, the president, J. Don Alexander, assumes the duties of reader. He is a heavy reader himself and says that many of the excellent business practices found in his organization have resulted from reading and adapting ideas of others to his particular business. He believes that the members of his organization should also read extensively, but recognizes the difficulty that many of his staff would encounter in finding time to read all of the magazines coming into the place.

When a magazine comes into the office, the mailing clerk affixes to the front cover a printed form, 5½ by 8½ inches, known

as the "Periodical Circulation Card." On the card are printed, in alphabetical order, the names of the members of the organization, and opposite each name are spaces, one to insert page numbers and the other to insert dates. At the top are these instructions:

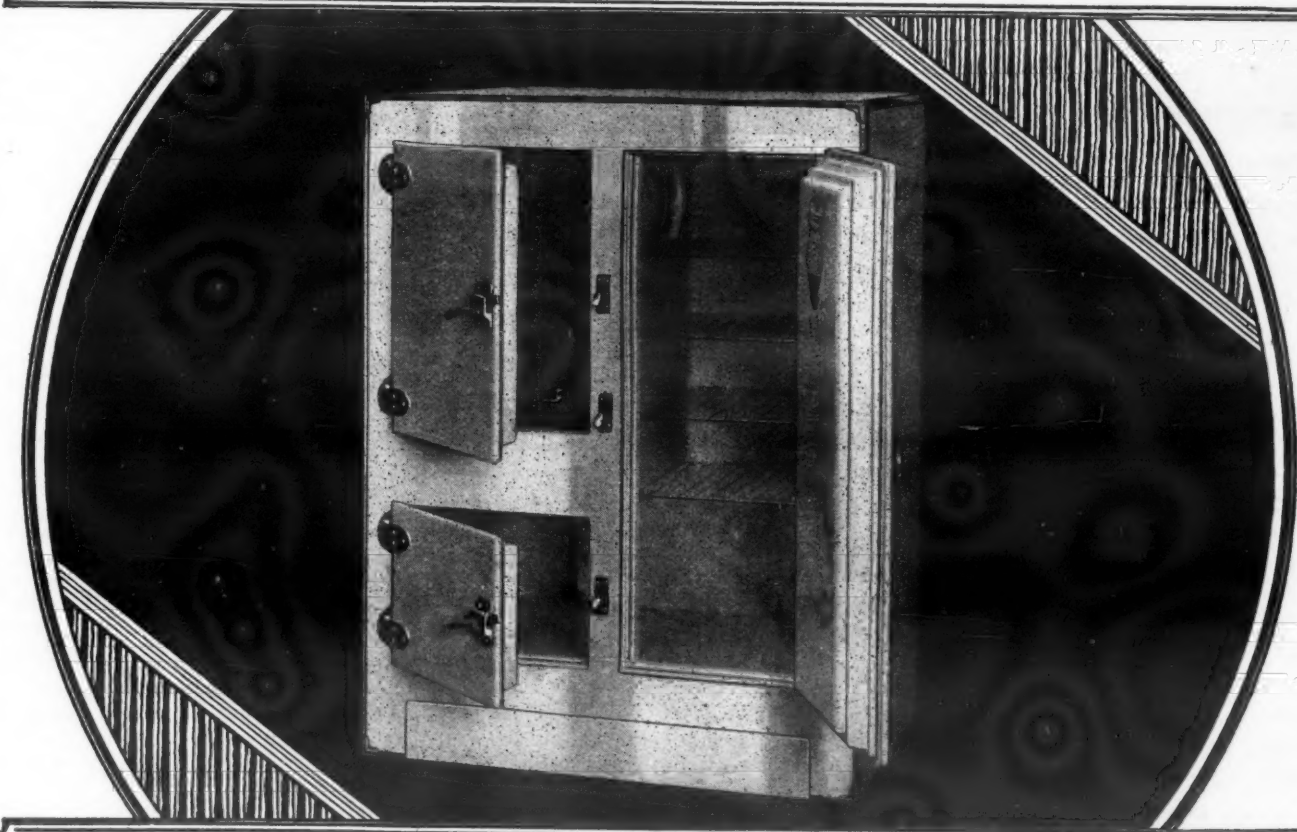
"Time Allowance.....Days. Check your name off and drop in outgoing basket before time allowance is up.

"The articles checked on this slip have a positive value to you whose names stand opposite the page numbers. You have been dated up for a serious go with a source of information that will improve your chances for advancement. Please return this volume to the librarian after reading."

After the magazine has been equipped with this card, it is placed upon Mr. Alexander's desk. He looks over the contents and, when he finds an article that should prove of assistance to any member of his organization, he notes the page number opposite the member's name on the card. If there are several members of the organization who should be interested, or if there are several articles in the magazine each of which should appeal to individual members of the organization, they are so noted and the magazine is placed in the outgoing basket to begin its rounds of the persons who names are on the list.

As each employee completes reading the article assigned to him, he checks off his name and indicates the date on which the magazine was in his hands, and the inter-establishment mail carrier takes it to the next person on the list.

QUALITY TRIM DENOTES QUALITY THROUGHOUT



LEONARD

Another Famous User of Monel Metal Refrigerator Trim

If a refrigerator is to have the appearance of quality, it must reflect quality in every part—on every surface. By using Monel Metal trim, leading refrigerator manufacturers insure the quality appearance of their products because:

1. It has a permanently bright, attractive surface—it dresses up the refrigerator
2. It is corrosion-resisting—easy to clean and keep clean.
3. It is inherently rugged—hard to dent or scratch.
4. It has no coating to wear off.
5. It has permanent ornamental value that helps to sell the refrigerator.
6. Last, but not least: It is available in ample quantities in desired dimensions, shapes and forms.

IMPORTANT: Refrigerator buyers are being taught to recognize a quality refrigerator by its Monel Metal trim.

Monel Metal is a technically controlled Nickel-Copper alloy of high nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.



Monel

metal



THE INTERNATIONAL NICKEL COMPANY (INC.), 67 WALL STREET, NEW YORK CITY



SIMPLE REFRIGERATION CONTROLS



No. 97—Surface Switch

Our No. 97 Surface switch is the simplest of all instruments for controlling domestic refrigeration units. This simplicity of construction gives longer life, easier installation and uninterrupted service.

These advantages are made possible by the use of the non-deteriorating Con-Tac-Tor (Mercury Switch) as the circuit breaking device. Our quality controls are yours at a minimum of expense.

We are builders of a complete line of automatic controls for commercial refrigeration.

Bulletin No. 120b on "Refrigeration Controls" sent upon request.

ABSOLUTE **CON-TAC-TOR** CORPORATION
ELKHART, INDIANA

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY

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AUGUST 17, 1927

Prospects—Who, Where, When?

Who are the best prospects for an electric refrigerator? Where may they be found? When is the best time to get the order? Much time and thought is expended by sales managers and by salesmen in an effort to find the answer to these questions with a view to sales efficiency and increased commissions.

Those who are naturally inclined to be pessimistic about the whole problem of selling have no difficulty in accumulating plausible reasons why this or that type of family or business cannot be sold. In the same way arguments may be developed to show that it is no use to approach the prospect early in the morning, at the lunch hour, or late in the afternoon. Excuses may be found for avoiding the prospect on Monday and Saturday, in January and December, or for that matter, any day or month between. In fact, to those who do not really like to sell, or to those who do not honestly believe in their product, there is no ideal time to get an order.

"Your Never Can Tell Where the Next Order Is Coming From"

In contrast with the foregoing, the attitude of the real salesman, who thoroughly believes in his product and the service which it renders, is truly refreshing. To him, every one is a prospect, any hour, day or month is a good time to present his proposition. He picks his prospects when and where he finds them. His hope is unlimited; his enthusiasm knows no bounds. He believes in the gospel "You never can tell where the next order is coming from."

Such a salesman delights in stories of the unpromising prospects he has sold. He recalls the old lady who had just sold a lot on which she was tired of paying taxes and who was glad to turn the money into "something which would do her some good." He relates the case of the foreigner who spoke little English, couldn't read, but who *could* count money—and who did so—spot cash on delivery. A trace of manly pride creeps in to his account of the sale he made to two girls doing light house-keeping in two rooms—cooking teachers in Central High—time payments adjusted to coincide with salary checks. He worked fast, he agrees, that time he sold a machine, sight unseen, to a real estate dealer while riding ten blocks on a street car. It was pure luck, he admits, when a lady stopped him on the street to inquire the way to a competitor's store.

The Poor Prospect of Yesterday May Be a Live One Today

The real salesman knows, of course, that most of his sales have been made only after persistent effort. He knows that many people cannot or will not buy *now*. He also knows that many *can* and *will*. He has learned that the prospect who says "no" today may say "yes" tomorrow. The family discussion after his first call may have changed the attitude of the prospect. A better job, a raise in salary, a gift from Aunt Mary, an unexpected legacy—any one of a hundred unknown factors in the situation may bring the prospect actively into the market.

Last winter, in the short month of February, the record sales were made in a northern city. Recently, in a southern city, the banner monthly sales were made in July. Good results may be achieved, it appears, any time the dealer decides to devote special effort to the business.

In this most prosperous of all countries, people find money to buy that which they *want*. The job is to "make them *want* electric refrigeration." The function of advertising and of selling is to create the desire which can only be satisfied by the purchase of the goods.

Holding to a Purpose

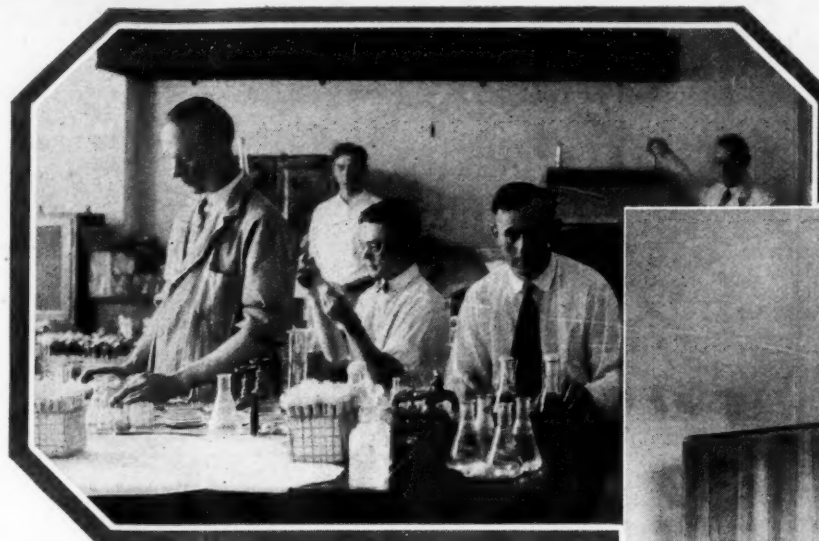
As stated in the initial issues, ELECTRIC REFRIGERATION NEWS was established with five broad, but definite aims:

- To encourage the development of the art;
- To promote ethical practices in the business;
- To foster friendly relations throughout the industry;
- To provide a clearing-house for new methods and ideas;
- To broadcast the technical, commercial and personal news of the field.

The degree to which the paper has approximated the fulfillment of its announced purpose is indicated to some extent by the enthusiastic expressions of approval by readers, examples of which have appeared frequently in the columns of the paper.

ELECTRIC REFRIGERATION NEWS is unique in the field of trade and business publications. Its continued growth and the wealth of interesting material published have been a source of satisfaction and surprise to leading men and women throughout the industry.

ELECTRIC REFRIGERATION NEWS has steadfastly adhered to a definite policy of constructive effort and has, at no time, lost sight of its original plan and purpose.



Test Tubes, Instead of Food, Are Kept Cold in Colorado Laboratory

Scientists Use Electrical Refrigeration To Control Bacterial Growth

The Public Service Company of Colorado has installed a 200 cubic foot Kelvinator in the new \$250,000 Chemistry Building of the University of Colorado at Boulder.

The electric refrigerating equipment is used for the storing of bacteriological media and for the keeping of pure cultures of bacteria by Prof. Charles F. Poe. The media is used in getting characteristic actions for different kinds of bacteria which are found in contaminated water supplies.

The temperature of the refrigerator is kept between 34 and 39 degrees Fahrenheit.

Prof. Poe keeps a corps of assistants busy in this department all of the time. Before installing electrical refrigeration very little of this type of work was done because an even temperature could not be maintained in ice chests, and more water evaporated from the media.



Engineers Study Performance Tests of Small Household Refrigerating Compressors

L. A. Philipp, of the engineering research department of the University of Michigan, Ann Arbor, and C. C. Spreen, chief engineer of Kelvinator, Inc., Detroit, presented a study of performance tests of small household refrigerating compressors at the annual meeting of the American Society of Refrigerating Engineers.

This paper was followed by one presented at the spring meeting of the A. S. R. E. at White Sulphur Springs, whose purpose as stated by the authors was "to confirm the experimental results and conclusions presented in the first paper . . . to give a more detailed account of the experimental results, and third, to calculate the efficiency of the small compressor and to show in detail the factors which determine its over-all efficiency."

"The capacity of the compressor is determined by a series of tests, first at variable room temperatures and then at constant room temperatures with throttled discharge. A comparison of the results of these two series of tests is then made to show the effect of room temperature on capacity. From the results of these same tests the volumetric efficiencies of the compressor are calculated and compared with the volumetric efficiency of the compressor when pumping air. Finally, the compression, mechanical and over-all efficiency of the compressor are calculated and presented in graphical form."

The conclusions reached by Mr. Philipp and Mr. Spreen follow, with seven points made by them in summary:

"The results of the test reported in this paper indicate that the three factors of largest significance in increasing the over-all efficiency of the household electric refrigerator are the efficiency of the motor, the mechanical and volumetric efficiency of the compressor. The problem of

a more efficient motor must be left to the motor manufacturers. It is the hope of every producer of electric refrigerators that such a motor at a lower cost may soon be put on the market.

"The desirable increase in mechanical efficiency might possibly be secured by employing a compressor of smaller bore and higher speed. This would also decrease the amount of material necessary for the construction of the compressor, and, therefore, lower manufacturing costs. The volumetric efficiency will be increased and power consumption lowered when more effective heat transfer is secured in the condenser, with a subsequent lowering of the discharge pressure of the compressor. To be sure, there are still other losses in small compressors, but they are those common to all reciprocating compressors, and need not be charged especially against the efficiency of the small machine."

"In spite of the fact that the small household refrigerating compressor has still the opportunity to develop higher efficiencies in some of these details of construction, the cost of operating the electric refrigerator is even now considerably less than the cost of buying ice. Two hundred and eight watts input to the motor is required to give an ice-melting capacity of 136.2 lbs. per 24 hrs. at a discharge pressure of approximately 70 lbs. gauge, the normal operating discharge pressure. At a rate of 3.6 cents per k. w. h. (Detroit minimum house rate) it would cost about 13 cents to produce an ice-melting effect of 100 lbs. of ice. A refrigerator for a family of ordinary size consuming about 25 lbs. of ice per day would make the cost of operation of the electric refrigerator about 3 or 4 cents per day."

Summary

"1. Two measurements, one based on the calorimetric measurement of the heat

absorbed at the evaporation, the other on the measurement of the quantity of refrigerant evaporated, have been described for determining the ice-melting capacity of a household refrigerating compressor; both methods give concordant results and require about the same experimental technique.

"2. The capacity of the compressor at constant suction pressure has been determined as a function of the discharge pressure which, in turn, is a function of the room temperature.

"3. The capacity of the compressor has been determined at constant suction pressure as a function of the discharge pressure, which is regulated by throttling the discharge pressure and maintaining the room temperature constant. The capacity was determined at a suction pressure of 15.22 lbs. and 18.22 lbs.

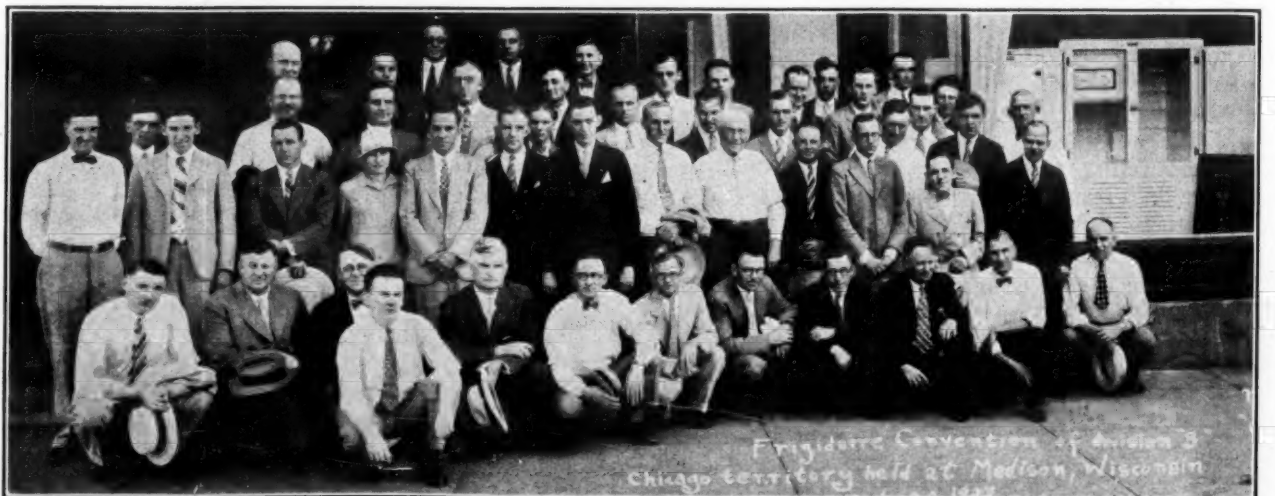
"4. The capacity of the compressor at constant room temperature is the same within the limits of experimental error as the capacity of the compressor at variable room temperature and at the same discharge pressure, when the capacity of the former is corrected for the temperature of the liquid passing through the expansion valve.

"5. The temperature of the refrigerant vapor measured at the shut-off valve or service valve of the compressor apparently has only a small effect upon the refrigerating capacity. The effect is within the experimental error in carrying out the tests.

"6. The air volumetric efficiency of the compressor and the true and apparent volumetric efficiency have been given. It has been shown that the capacity of the compressor can be calculated from air volumetric efficiency when certain specifications are made in the calculation.

"7. The compression efficiency and the mechanical, over-all and Carnot efficiencies have been given as a function of the discharge pressure of the compressor."

Frigidaire Salesmen Hear Plans for Next Selling Contest

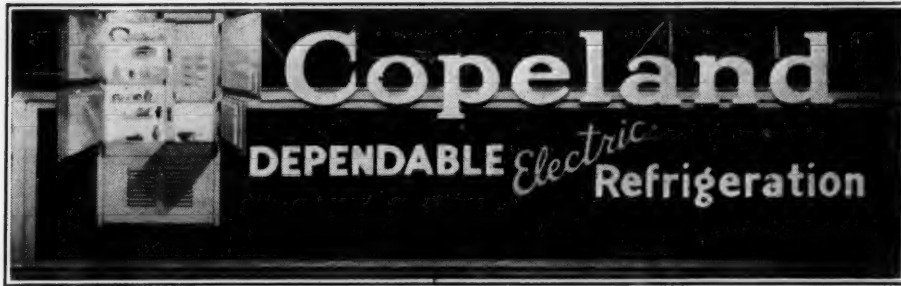


Representatives of Frigidaire in Southern Wisconsin Meet at the Park Hotel, Madison, Wis.

Gigantic Electric Sign in Prominent Place Keeps Copeland Before People of Pittsburgh, Pa.

(Right) The Sign is Especially Brilliant at Night

(Below) Approaching the Sign on the Boulevard—Where It Tells Copeland's Story Day and Night



A gigantic electric sign, measuring 75 feet in length and 20 feet in height, has been placed on Bigelow Boulevard, Pittsburgh, by the Copeland Refrigerating Company of Pittsburgh.

Its excellent location, near Bloomfield Bridge, brings it to the attention of thousands during each twenty-four hours.

The cabinet, which is filled with food, in colors, is illuminated, as are the words "Copeland Dependable Electric Refrigeration."

There are 650 ten-watt lamps, 24 one-hundred-and-fifty-watt lamps, and 5 one thousand-watt lamps in use on the sign, making it readable for miles at night.



WISCONSIN DISTRIBUTOR SHOWS STEADY GROWTH OVER 11-YEAR PERIOD

The Harloff-Loprich Electric Company, distributor of the Kelvinator electric refrigerator in southern Wisconsin, has recently moved into its new home at 506 State Street. The concern has been in business for eleven years and during this time has built up a fine reputation in the electric refrigerator business. The store has always assumed a progressive policy, believing that the public must be educated to purchase any new product which may come on the market.

The first shop of the company on North Hamilton Street was a modest establishment, and the owners were the entire force. Two years later, because the business had enjoyed a steady growth and more space was necessary, the company moved to 602 State Street, in which location it has remained until it moved to its present new quarters.

With the opening of their new store they did not neglect their display window and display room. With a frontage of 30 feet on State Street and two large show windows, the exterior is pleasing to the eye. On the ground floor a room 120 feet deep, with walls painted in two tones of tan, provides ample space for the display of electrical merchandise on one side and a complete line of Kelvinator electric refrigerators on the other. Twenty models are shown in this department.

Otto Harloff is in general charge of the entire organization and has direct supervision of the territory, comprising twenty counties in southern Wisconsin. Karl Loprich is devoting much time to the installation department of the Kelvinator line, his first assistant being Raymond Neipert. Others in the Kelvinator department are Otto Neimann, in charge of local sales; David Pritchard, his assistant; and Leo Aberle and George Rogers.

INCREASED EXPERIENCE WILL SOLVE SERVICE PROBLEM

"Electric refrigeration is coming very fast in my opinion," writes F. L. Northey, president of the Northey Manufacturing Company, Waterloo, Iowa, "and the fellow who looks after the proper installation rather than selling the machine is the fellow who is going to wind up in the next few years as having the best results on the machine end of it."

"I consider that the small fellow who operates along this line will be farther ahead than some of the larger firms in the finish. This has been shown very conclusively in the ammonia machine work; some of the firms in this line are outstanding among the buyers as having successfully operating units, while others have been careless in trying to meet competition and have lowered their future possibilities."

"Circumstances," he continued, "are going to bring about service men in every community, the same as we now have plumbers and electricians. The general public will seek these people to have their refrigerators taken care of as they now have their automobiles cared for. It is the mystery of the ice machine now that forces this expense on the manufacturer."

"If there is any criticism of the electric machine business at this time, I would say that it is growing too fast and through enthusiasm many are getting on the market too quickly and making too many changes after the machine is started. This weakens the consideration of the public for a machine."

Oliver Co. Starts Business in Racine

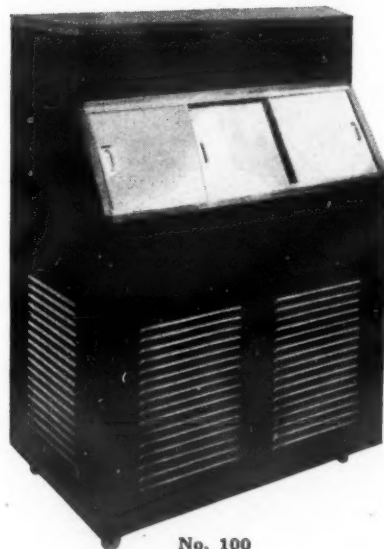
The J. H. Oliver Co., Racine, Wis., has recently been formed in that city to deal in electrical equipment and supplies, and also electrical refrigerators. Members of the company, which has capitalized for \$10,000, are William R. Adewitz, J. H. Oliver and Rosella K. Oliver.

Interesting Subjects Presented

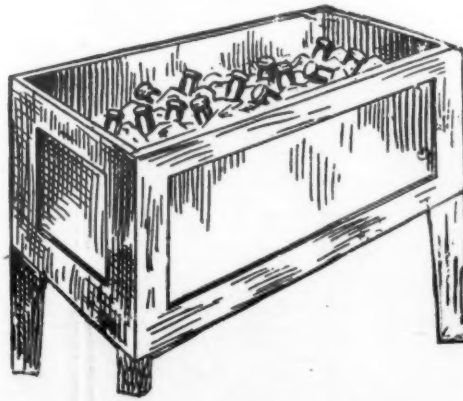
"I have been reading ELECTRIC REFRIGERATION NEWS for some time and wish to compliment you on the interesting subjects that you are presenting in the paper. Hoping that you keep up the good work.—James J. Garrow, Frigidaire service man, 6226 N. Clark St., Chicago."

HIBBARD ELECTRIC BOTTLED BEVERAGE CABINETS

offer A NEW CHANNEL for ELECTRIC REFRIGERATION



No. 100
Capacity 100 bottles—35" long, 22" wide, 48" deep



No. 400
Capacity 400 bottles—59" long, 31" wide, 30" deep

The old-fashioned ice cooled beverage cabinet is now thrown into the discard, replaced by a HIBBARD Electric Cabinet. Built throughout of steel, these cabinets are permanent. Electric refrigeration's dry cold air keeps the bottled goods cooler, cleaner, and with labels on.

The Bottlers' product is offered for public consumption at its best—clean, cold, tempting. This means increased business for the Bottler, and the Power Company replaces the iceman, at long profit.

The attached coupon, mailed in, will bring you complete information on HIBBARD CABINETS.

THE HIBBARD CO.,
Hibbard Bldg., Cleveland, O.
Please mail complete data on HIBBARD CABINETS.

Name
Address
City
State

Hibbard Cabinets are sold by Leading Light and Power Companies, by Frigidaire and Kelvinator Dealers everywhere.

Patents Issued and Pending

THE HIBBARD COMPANY

HIBBARD BLDG. :: CLEVELAND

PIPE and TUBE FITTINGS



Made From Brass Rod, Castings or Forgings

For many years we have specialized in the manufacture of brass fittings, in small sizes, for connecting brass and copper tubing.

In addition to fittings made from brass rod and castings, we are now producing similar parts made from BRASS FORGINGS to meet the requirements of Iceless Refrigerator Manufacturers for fittings of a superior type. These fittings will not leak gas, air or liquids under mechanical pressure. They have the compact grain structure, high tensile strength and smooth, flawless surfaces found only in forgings. Our forged fittings are accurately machined, carefully inspected and equal to the most exacting requirements.

Send a sample or blue-print for quotations on parts of a special nature. Catalogue No. R-30, showing our complete line of standard fittings will be mailed on request.

COMMONWEALTH BRASS CORPORATION
DETROIT 5781-5835 COMMONWEALTH AVE. MICH.

Electric Refrigeration Directory

Section 1—Manufacturers of Electric Refrigerators

For Household or Commercial Use. (See Section 2 for Manufacturers of Cabinets Only. See Section 3 for Manufacturers of Parts and Accessories)

Copeland Products, Inc., Detroit, Mich.
Manufacturers of COPELAND commercial and household refrigerators.
William Robert Wilson, president; George W. Mason, vice-president; Edwin H. Brown, secretary and treasurer; D. E. Knowles, assistant secretary, treasurer and comptroller; W. D. McElhinny, vice-president in charge of sales; George W. Mason, vice-president and general manager; A. M. Taylor, advertising and sales promotion manager; B. P. Watkins, purchasing agent; Glen Muffly, chief engineer; S. W. Taylor, factory manager; M. B. Ellis, service manager.

General Electric Co., Electric Refrigeration Dept., Hanna Bldg., 1400 Euclid Ave., Cleveland, Ohio. Factories at Schenectady, N. Y., and Fort Wayne, Ind.
Manufacturers of GENERAL ELECTRIC household electric refrigerators; motors for household and commercial machines.

T. K. Quinn, manager; P. B. Zimmerman, sales manager; W. J. Daily, sales promotion manager; L. R. Edwards, advertising manager; C. E. Eveleth, works manager (refrigeration); Walter Goll, Fort Wayne works manager (refrigeration); C. E. Roesch, assistant sales manager; H. C. Mealey, credit manager; G. C. Wasson, manager of distribution; H. P. Smith, auditor; J. J. Kehoe, in charge of cabinets; W. C. Noll, service manager.

Electro-Kold Corp., 151 S. Post St., Spokane, Wash.
Manufacturers of ELECTRO-KOLD electric refrigeration units for household and commercial use.

X. L. Anthony, president; L. J. Kimmel, vice-president; E. S. Matthews, secretary-treasurer; C. L. Lewis, general manager; E. S. Matthews, sales manager; H. L. Masterson, advertising manager; D. W. Mather, purchasing agent; L. J. Kimmell, chief engineer.

The Iroquois Electric Refrigeration Co., 1500 Arch St., Philadelphia, Pa. Associate of the Barber Asphalt Co. Factory at Buffalo, N. Y.

Manufacturers of IROQUOIS household electric refrigerators; pumps and compressors; condensers and expanders; float valves; other control devices.

Arthur W. Sewall, president; Frank Seamans and C. W. Bayliss, vice-presidents; E. R. Riter, secretary; Ira Atkinson, treasurer; C. W. Bayliss, sales manager; W. F. Hartzell, advertising manager; F. A. Browne, chief engineer; A. L. Bell, works manager.

Kelvinator, Inc., Plymouth Road, Detroit Michigan. Subsidiary of Electric Refrigeration Corp. Factories at Detroit and Grand Rapids, Mich.

Distributors of KELVINATOR electric refrigerators for household and commercial use, NIZER ice cream and soda fountain units and cabinets, LEONARD refrigerator cabinets, water coolers; other special applications.

A. H. Goss, chairman of board (Electric Refrigeration Corp.); C. K. Woodbridge, president; H. W. Burritt, B. A. MacDonald, W. D. Mercer, A. W. Berresford, H. C. Leonard, and H. A. Lewis, vice-presidents; M. Wiley, secretary; C. K. Matheson, director of sales, Kelvinator division; H. A. Sieck, director of sales, Nizer division; August H. Jaeger, sales manager, Leonard division; Gordon W. Kingsbury, director of advertising; A. A. Morell, purchasing agent; C. C. Spreen, chief engineer; E. A. Seibert, service manager; Gordon Muir, Nizer adv. mgr.

Norge Corp., 670 East Woodbridge St., Detroit, Mich.
Manufacturers of NORGE household electric refrigerator units.

E. E. McCray, chairman of the board; Howard E. Blood, president and general manager; W. C. Rand, vice-president; W. C. Rand, Jr., secretary-treasurer; R. E. Davis, assistant secretary and treasurer; C. D. Donaven, assistant general manager; A. E. Bottenfield, sales manager; Ira Reindel, chief engineer.

Peerless Ice Machine Co., 503 S. Jefferson St., Chicago, Ill.
Manufacturers of automatic refrigerating machines, water cooling plants, water regulators, and pressure controls.

Rome Manufacturing Co., Railroad St., Rome, N. Y.
Manufacturers of ROME commercial electric refrigerating machinery.
P. C. Thomas, president; Barton Haselton, vice-president; E. L. Spriggs, vice-president; C. P. Drake, secretary-treasurer; P. C. Thomas, general manager; C. P. Drake, sales manager; W. P. Davis, sales promotion and service manager; James Warren, works manager; C. A. Xardell, chief engineer.

Universal Cooler Corp., 18th and Howard Sts., Detroit, Mich.
Manufacturers of UNIVERSAL COOLER electric refrigeration units for household, commercial, ice cream and soda fountain uses; water coolers; other special applications; pumps and compressors; condensers and expanders.

Patterson Farmer, president; Ford Ballantyne, vice-president; Albert H. Meinke, secretary-treasurer; A. DeB. Gaines, sales manager; H. R. Christensen, advertising mgr.; Harry Thompson, chief engineer; George Blair, factory mgr.

Welsbach Co., Gloucester, N. J. Subsidiary of United Gas Improvement Co. Manufacturers of WELSBACH electric refrigeration units for household and commercial use; water coolers; other special applications; pumps and compressors; thermostats; chemicals; paint.

Sidney Mason, president; Townsend Stites, vice-president; E. L. Knoedler, vice-president; F. J. Rutledge, vice-president; Paul Thompson, vice-president; G. W. Curran, secretary; I. W. Morris, treasurer and assistant secretary; E. MacMorris, assistant secretary; T. W. MacLary, assistant treasurer, refrigeration division; Howard R. Lukens, general manager; R. R. Thompson, sales manager; A. B. Hatch, manager public utility relations; C. B. Ryan, Jr., manager, service and sales promotion; R. D. Lombard, commercial sales engineer; R. B. Havens, advertising manager; F. A. Wegener, chief engineer; E. L. Knoedler, general superintendent; Whitney Kirk, purchasing agent.

Notice

The Electric Refrigeration Directory is published as a service to the industry. There is no charge for this listing. Manufacturers whose names have been omitted are invited to furnish the necessary information at once.

Owing to the increased size of the Directory it was found necessary to reduce the size of type used. Preference is therefore given to those companies having advertising contracts or advertisements in this issue. The listing of these companies remains in the larger type and double column width.

This distinction is made in fairness to those companies whose advertising makes possible the continued service of ELECTRIC REFRIGERATION NEWS to the industry. It is also an advantage to the reader in that it indicates those companies which are prepared to serve new customers.

Note: This Directory will be reprinted, with corrections and additions, in the issue of September 14, 1927.

American Engine and Airplane Co., Los Angeles, Cal.
Manufacturers of household electric refrigerators and control devices.
Ralph M. Burdick is president.

American Engineering Co., Kensington Station, Philadelphia, Pa.
Manufacturers of JURNICK commercial, ice cream and soda fountain units.
Maxwell Alperin, president; W. V. Santer, vice-president; C. L. Cushman, secretary and treasurer; H. L. Lewis, sales manager refrigeration department; J. G. Worker, general sales manager; H. L. Lewis, sales manager refrigeration; J. M. Combs, advertising manager; E. W. Schuringhausen, purchasing agent; H. A. Peck, works manager; O. A. Johnson, factory engineer.

Armstrong Machinery Co., Spokane, Wash.
Manufacturers of ammonia compressors and refrigerating equipment. Domestic butcher hotel, creamery, restaurant or packing plant equipment, 17 sizes, in 1/4 to 30 ton capacity. Trade names, SPOKANE, SIBERIAN, ALASKAN, ICELANDER, CHILKOOT.
D. F. Kizer, president; L. B. Armstrong, vice-president; Stanley Mayall, secretary-treasurer; Harry Mayall, sales manager.

Audiffren Refrigerating Machine Co., 285 Madison Ave., New York, N. Y.; factory at Jersey City, N. J.
Manufacturers of AUDIFFREN electric refrigerators for household and commercial use.
E. T. Hargrove, president; K. D. Perkins, vice-president and treasurer.

Automatic Freezer Syndicate, Office, 1716 Ford Bldg., Detroit.
Factory, Hillsdale, Mich.
Manufacturers of CARE-FREE Commercial and household electric refrigerators, specializing in corrosion-proof electric refrigeration units for ice cream and soda fountains.

Baker Ice Machine Co., Inc., 3601 N. 16th St., Omaha, Neb.
Manufacturers of BAKER SYSTEM electric refrigeration units for commercial, ice cream and soda fountain use, pumps and compressors, coils.
J. L. Baker, president; Charles Knox, vice-president; F. J. Vette, secretary; C. A. Baker, treasurer; L. W. Morris, sales manager; R. C. Hudson, advertising and sales promotion manager; C. A. Baker, purchasing agent; Charles Knox, chief engineer; J. H. Coesfeld, superintendent.

Belding-Hall Electric Corporation, Belding, Mich.
Manufacturers of Belding-Hall ELECTRIC household and commercial electric refrigerator units, and cabinets.
Arthur E. Swanson, president; Brinton F. Hall, vice-president and treasurer; and Guy D. Weter, secretary.

Brunswick-Kroeschell Co., Jersey Ave., New Brunswick, N. J.
Manufacturers of BRUNSWICK commercial electric refrigerators, other control devices.
James W. Johnson, president; Sydney B. Carpenter, vice-president and general manager; Arnold H. Goetz, vice-president and chief engineer; Robert A. Kroeschell, secretary and sales manager; William Carpenter, treasurer; H. Harrison, advertising manager; Walter Jones, production manager.

The Bryant Pattern & Mfg. Co., 702-710 St. Antoine St., Detroit, Michigan.
Manufacturers of commercial refrigerating machines of 300 to 400 pounds capacity for ice cream cabinets, butcher display cases, etc., together with compressors, patterns, dies, etc.
A. W. Bryant, vice-president and engineer; E. S. Bryant, secretary-treasurer and manager; A. W. Bryant, purchasing agent; E. J. Mamer, sales and advertising manager; E. S. Bryant, factory manager.

Castle Refrigerating Machine Co., 138 Neal St., Indianapolis, Ind.
Manufacturers of complete units for commercial use, 2 to 15 tons; electric refrigeration equipment for ice cream manufacturing; ammonia condensers; brine tanks for commercial use.
O. H. Castle, manager and owner.

Champion Electric Co., division of Champion Shoe Machinery Co., 3711-41 Forest Park Ave., St. Louis, Mo.
Manufacturers of CHAMPION ELECTRO ICER machines for household and commercial use, motors, pumps and compressors, condensers and expanders.
Geo. A. Dobyne, president; S. A. Dobyne, general manager; Stanley C. Bell, sales and advertising manager; Charles Fogler, purchasing agent; S. A. Dobyne, chief engineer.

Climax Engineering Co., 4th St. at 18th Ave., Clinton, Iowa. Subsidiary of the G. W. Dulany Trust, Chicago, Ill.
Manufacturers of CLIMAX electric refrigeration units for household, commercial, ice cream and soda fountain use, pumps and compressors.
G. W. Dulany, Jr., president, Chicago, Ill.; E. P. Denkman, vice-president, Rock Island, Ill.; J. M. Thomsen, secretary, Chicago, Ill.; M. M. Cruise, treasurer, Chicago, Ill.; R. C. Rowan, general manager, Clinton, Iowa; R. L. Alexander, manager, refrigeration department; N. Palmer, advertising refrigeration department; Walter Johnson, purchasing agent; R. L. Alexander, chief engineer.

Clover-Olson Refrigerator Co., 6551 San Pablo Ave., Oakland, Calif.
Manufacturers of CLOVER-OLSON electric refrigerators for household, commercial, ice cream and soda fountain use; pumps and compressors; float valves, automatic pressure controls, ammonia machine to 6-ton capacity.
E. F. Clover, president; C. F. Olson, secretary; D. P. Eicke, vice-president.

Coldak Corp., 8 West 40th St., New York, N. Y. Factories at Springfield, Mass.; Providence, R. I., and Muskegon, Michigan.
Manufacturers of COLDKAK electric refrigerators for household and commercial use.
J. H. Pardee, president; E. J. Rock and C. M. Burnhope, vice-presidents; T. W. Moffat, treasurer; H. B. Brown, secretary; Hazor J. Smith, chief engineer; C. B. Shepard and W. A. Blackwood, assistant engineers; J. J. West, sales manager; and W. B. Reed, service manager.

Cooke Electric Refrigeration Co., 14-30 N. Green St., Chicago, Ill.
Manufacturers of COOKE household, commercial and ice cream cabinets.
George J. Cooke, president and treasurer; George J. Cooke, Jr., vice-president; Robert E. Cooke, secretary.

Domestic Electric Refrigerator Corporation, 2 West 48th Street, New York City. Factories at West Chester, Pa.
Manufacturers of ALLISON household electric refrigerating machines.
Julius Fleishman Holmes, president; Fred Allison, vice-president; A. L. Kull, vice-president and general manager; Hamilton L. Shields, secretary-treasurer; John A. Sturges, sales manager; George Hotte, sales promotion manager; and H. R. VanDeventer, chief engineer.

Excelsior Motor Manufacturing & Supply Company, 3701 Cortland Street, Chicago.
Manufacturers of EXCELSIOR refrigerating machines for commercial use in one-fourth, one-half, and one-third ton capacities; also of drop-forged valves, fittings and flanges for other refrigerating machines of similar size.
Ignaz Schwinn, president and treasurer; Frank W. Schwinn, vice-president and general manager; J. M. Grossmith, secretary; M. W. Crawford, refrigeration sales manager; D. E. Rutishauser, manager service engineering; A. P. Anderson, chief engineer; Wesley G. Paulson, advertising manager; J. E. Anderson, purchasing agent.

Everite Products, Inc., Dayton, Ohio.
Manufacturers of EVERITE compressors and cooling units for domestic and commercial use.
F. C. Geiler, president; K. Williamson, vice-president; J. A. Wortman, secretary and treasurer.

The Frigair Company, 1972-1976 Lincoln Ave., Pasadena, Calif. Factories located at Los Angeles, and Inglewood, Calif.

Manufacturers of FRIGAIR household and commercial machines and machines for ice cream and soda fountains, water coolers and thermostats.

W. F. Warner, president, general manager, sales promotion manager; T. W. Warner, vice-president; M. L. Warner, secretary and purchasing agent; N. F. Hill, factory manager; D. M. Warner, chief engineer.

Frigidaire Corp., Dayton, Ohio. Subsidiary of General Motors Corporation.
Manufacturers of electric refrigerators for household, commercial, ice cream, soda fountain, water coolers and other special applications.

E. G. Biechler, president; R. D. Funkhouser, vice-president; C. F. Kettering, vice-president; H. W. Prior, general sales manager; J. A. Harlan, household sales manager; C. A. Copp, commercial sales manager; E. D. Doty, advertising manager; L. S. Keilholtz, chief engineer; Thos. B. Fordham, works manager.

Fowler Refrigerating Machine Co., Baltimore, Md.
Manufacturers of the FOWLER commercial and ice cream and soda fountain electric refrigerating units.
Fleming B. Fowler, chairman of the board; Elbert Fowler, vice-president and chief engineer; Herbert Schaeffer, secretary and treasurer.

General Necessities Corp., 1560-78 Theodore St., Detroit, Mich.

Manufacturers of ABSOPURE FRIGERATOR for household, commercial, ice cream and soda fountain use; water coolers; thermostats.
David A. Brown, president; H. J. Redwood, first vice-president; C. U. Carpenter, third vice-president and general manager; E. E. Von Rosen, secretary and treasurer; W. Peck, secretary; W. M. Cutler, assistant sales manager; T. F. Moran, purchasing agent; H. C. Hayes, chief engineer; H. D. Dargert, factory manager; T. S. Pendergast, assistant engineer and service manager.

General Refrigeration Co., Beloit, Wis. Factory at South Beloit, Ill.
T. E. Swords, president; J. R. Morash, vice-president and general manager; J. J. Tyndal, secretary; George O. Forbes, treasurer; C. A. Pearson, sales manager; W. C. Moore, advertising manager; J. E. Churm, purchasing agent; F. E. Dennison, chief engineer.

Manufacturers of Lipman-Full automatic electric refrigerating machines for every commercial purpose; coils; conductors; expansion valves.

Iron Mountain Co., 939-1011 E. 95th St., Chicago, Ill.
Manufacturers of ZEROZONE commercial and household electric refrigerators, electric refrigeration units for ice cream, soda fountains, water coolers and other special appliances.

C. E. Jernberg, president; O. H. Anderson, vice-president and general manager; L. C. Keely, vice-president in charge of sales; A. C. Moreland, sales manager; E. C. Lovegren, sales promotion manager; G. G. Hawley, purchasing agent; W. E. Stahl, chief engineer; Nels Anderson, factory manager; R. F. Palley, service manager.

The Isko Company, 2525 Clybourn Ave., Chicago, Ill.

Jack Frost Ice Machine Co., Ltd., 347 Sorau Ave., Toronto, Canada.
Manufacturers of JACK FROST household and commercial refrigerators, complete units for ice cream and soda fountain use, water coolers, soft drink cabinets.

John G. O'Brien, president; F. Mayhew, vice-president; G. Argument, secretary and treasurer; John C. O'Brien, general manager; Fred C. Baker, manager of sales; T. L. O'Brien, general superintendent; W. Thornton, assistant superintendent in charge of installation and service.

Keokuk Refrigerating Co., Keokuk, Iowa.
Manufacturers of KEOKUK household and commercial electric refrigerators, thermostats; other control devices.

G. E. Weissenburger, president; John Dillon, vice-president; J. O. Boyd, secretary and treasurer; G. E. Weissenburger, general manager and purchasing agent; John Dillon, sales and advertising manager; G. L. Weissenburger, chief engineer.

Keystone Refrigeration Corp., Beaver Falls, Pa.
Manufacturers of KEYREX household and commercial refrigerator units.
W. B. Atwood, president; J. B. Easter, vice-president; G. W. Kilpatrick, secretary and treasurer; Merton L. Emerson, general manager; J. B. Easter, sales manager; H. S. Michael, chief engineer.

The Lamson Co., subsidiary of American Pneumatic Service Co., Syracuse, New York. Manufacturers of ICE MAID household, ice cream and soda fountain machines.
Merton L. Emerson, president and general manager; John S. Ogg, vice-president and treasurer; H. W. Alexander, general manager, Ice Maid division; J. T. Cowley, chief engineer; H. F. Brugmann, factory superintendent; and S. W. Pierce, purchasing agent.

Lindsay, Hyde & Co., 2130 E. York St., Philadelphia, Pa.
Manufacturers of LIHYCO electric refrigerators for household use; tubing.
Wm. Gebble, sales manager; Wm. J. Maginnis, chief engineer; John Lindsay, works manager.

Mechana-Kold Corporation, Bay Shore, New York.
Manufacturers of household refrigerating machines, small commercial machines for display counter use, and complete line of metal cabinets with machines in bases; also thermostats and freezing tanks.

The Merchant & Evans Co., 2085 Washington Ave., Philadelphia, Pa. Factories at Lancaster and Philadelphia, Pa.
Manufacturers of M. & E. household and commercial electric refrigerators.

Powell Evans, president; Thomas Evans, secretary and general manager; M. P. Stoney, production manager; S. J. Benn, chief refrigeration engineer.

Michigan Refrigeration Co., Inc., 1600 Monroe Ave., Grand Rapids, Mich.
Manufacturers of EL-FRIG-ETTE household electric refrigerator.
Joseph Renihan, president; V. I. Cilley, secretary-treasurer; M. D. Greene, production manager.

Narragansett Machine Co., Vale St., Pawtucket, R. I.

Manufacturers of CHILRITE electric refrigerators for household use.
A. J. Thornley, president; Albert E. Thornley, vice-president; C. A. Bryant, advertising manager.

National Refrigerating Co., branch of Winchester Repeating Arms Co., 125 Munson St., New Haven, Conn.
Manufacturers of ICE-O-LATOR household and commercial electric (and gas operated) refrigerators.

W. A. Tobler, president; L. H. Thompson, vice-president, treasurer, and general manager; Edwin Pugliese, vice-president; Henry Brewer, secretary; A. E. Hodgson, assistant treasurer; L. W. Crenshaw, assistant secretary; G. W. Keller, assistant sales manager (acting sales manager); John A. Lunn, sales engineer; Dr. W. R. Hansworth, refrigeration engineer; C. S. Hutt, advertising manager; George H. Reams, works manager.

F. W. Niebling & Company, 408 Elm Street, Cincinnati, Ohio.
Manufacturers of refrigerating machinery, compressors, Niebling patent plate valves for all sizes of compressors.
F. W. Niebling, president.

The Phoenix Ice Machine Company, 2711 Church Ave., Cleveland, O.
Manufacturers of PHOENIX refrigerating machinery for commercial use.

A. Novotny, vice-president; H. H. Jeck, secretary; H. E. Bollinger, treasurer and manager; R. H. Whipple, sales manager; G. Vance Rupp, chief engineer; and Fred Mayer, factory superintendent.

Plympton Refrigerator Company, Inc., Ellwood City, Pa.

Manufacturers of Plympton refrigerators, display counters, coolers and circulating systems for any refrigerating unit.
Cabinet sales handled by Plympton Sales Co., 604 Chamber of Commerce Building, Pittsburgh, Pa. Circulating system sales handled by factory at Ellwood City, Pa.

T. A. Daley, president; H. B. Beighley, secretary-treasurer and general manager; W. T. Gilpin, sales manager; W. B. Dolan and D. C. Hamilton, assistant sales managers; R. R. Plympton, factory superintendent; William Plympton and Donald Plympton, refrigeration engineers.

Polarair Electric Refrigerator Co., 1610 North St., Philadelphia, Pa.

Manufacturers of POLARAIR household electric refrigerators, commercial machines, motors for household and commercial machines, tubing, condensers and expanders, other control devices, pressure controls.

L. V. Gilliam, president; F. N. Miner, vice-president; R. M. Cook, secretary-treasurer; Chas. J. H. Freeth, sales manager; Joseph Roman, service manager.

Polaris Electric Refrigerator Co., 417 First St., Logansport, Ind.

Manufacturers of POLARIS electric refrigeration machines for household and commercial use; electric refrigeration equipment for ice cream and soda fountain use.

C. H. Canode, president; J. F. McManus, vice-president; C. C. Darnall, vice-president and general manager; C. W. Church, secretary; H. A. Kraut, treasurer; W. P. Arthur, sales manager; John Dubrovic, chief engineer; G. V. Morse, production manager.

Rice Products, Inc., 100 East 42nd St., New York City, and 315 Baubien St., Detroit, Mich.

Manufacturers of RICE household and commercial refrigerator units and other control devices.

J. L. Rice, Jr., president; T. E. Carpenter, vice-president and general manager; Julian Rice, secretary; James H. Frazier, advertising manager; Frank R. West, chief engineer.

Sanat Refrigerating Co., 331 Madison Ave., New York, N. Y. Factories at York, Pa.

Manufacturers of SANAT household electric refrigeration units.

Paul H. Burch, president; John E. Ericson, first vice-president; Howard M. Groff, secretary and treasurer; Paul H. Burch, general manager; John E. Ericson, production manager; John F. Schustart, service manager.

Sanitary Refrigerator Co., Oak Place, Fond du Lac, Wis.

Manufacturers of SANITARY electric refrigerators for household use.

Savage Arms Corp., Turner St., Utica, N. Y.

Manufacturers of SAVAGE electric refrigerator equipment for ice cream and soda fountain use.

W. L. Wright, president; F. R. Phillips, vice-president; J. H. Cook, secretary; E. A. MacDonald, treasurer; F. F. Hickey, general manager; C. A. Baldwin, manager refrigerator division; R. B. Woolley, advertising manager; J. H. Cook, purchasing agent; F. T. Russell, works manager; W. L. Howlett, service manager; R. W. Ayres, chief engineer refrigeration department.

Servel Corporation, 51 East 2nd St., New York, N. Y. Subsidiary of the Servel Corp. (Delaware). Sales and advertising offices and factory at Evansville, Ind.

Manufacturers of SERVEL household electric refrigerators and electric refrigeration units for commercial ice cream and soda fountain use.
Frank E. Smith, president; Harold P. Childs, vice-president; F. O. Cummings, treasurer; F. S. Fenton, merchandise manager; C. A. Miller, service manager; R. W. Foley, sales promotion manager.

Socold Refrigerating Corp., 19 Stewart St., Lynn, Mass. Factories at Lynn and Walpole, Mass.

Manufacturers of SOCOLD household electric refrigerators, pumps and compressors.
Louis M. Atherton, president; Arthur F. Bent, vice-president; Charles H. Nevons, secretary and treasurer; Roy H. Booth, sales and advertising manager; Clem M. Batchelder, purchasing agent; Arthur C. MacIntosh, chief engineer; Clifford E. Porter, service manager; Henry E. Ferris, works manager.

Superior Iceless Refrigerator, Inc., Canton, O.

Manufacturers of SUPERIOR household, commercial, ice cream and soda fountain electric refrigerators, complete, water coolers, pumps and compressors, condensers and expanders.
Chas. A. Kolp, president; Edward L. Frantz, executive vice-president; Arthur F. Quirk, secretary; Frank Zink, treasurer; W. F. Marr, sales manager; C. E. Yates, sales engineer; George Lee Miller, works manager; J. E. Massey, production manager.

The Triumph Ice Machine Co., branch of The Triumph Electric Corp., 110 E. 70th St., Cincinnati, Ohio.

Manufacturers of TRIUMPH household, ice cream and soda fountain electric refrigerating machines, water coolers, motors for commercial machines; pumps and compressors; condensers and expanders; oil interceptors; ammonia condensers; receivers; brine coolers and ammonia fittings.

J. C. Hobart, president; E. W. Hobart, secretary; G. P. Hunt, treasurer; J. C. Hobart, M. L. Block, purchasing agent; J. O. Schultz, general manager; J. O. Schultz, sales manager; chief engineer; J. L. McClure, works manager.

Ward Electric Refrigerator Corp., Buchanan, Mich.

Manufacturers of WARD household and commercial units and cabinets, pumps and compressors.
L. W. Ward, president; Miles Ayrault, vice-president; H. B. Hutchings, secretary-treasurer; A. Humason, sales manager; E. W. Esman, sales promotion manager; D. B. Church, purchasing agent; Miles Ayrault, engineer; H. Schneckenberger, service manager; M. Clay, factory manager.

Warner Steel Products Co., Ottawa, Kan.

Manufacturers of SURECOLD household and commercial electric refrigerator, water coolers, display counters, compressor units, and cooling coils.

C. E. Warner, president; A. L. Kitzelman, vice-president; E. L. Warner, secretary, and general manager; W. H. Warner, treasurer; G. E. Freeman, sales manager; C. R. Lawson, advertising manager; D. Duffy, chief engineer; W. Judd, production manager; H. K. Pinkerton, service manager.

Wayne Company, Fort Wayne, Indiana.

Manufacturers of electric refrigerators for household and commercial use.

W. M. Griffin, president; B. F. Geyer, vice-president; E. A. Zern, treasurer; C. G. Guild, secretary; F. O. Sallee, sales manager; P. L. Iddings, advertising manager; W. Brandt, general superintendent; E. A. Robertson, chief engineer; O. B. Barrett, purchasing agent.

Whitehead Refrigeration Co., 3724 Woodward Ave., Detroit, Mich. Subsidiary of Whitehead & Kales Co.

Manufacturers of WHITEHEAD household electric refrigeration units.

T. C. Whitehead, president; H. V. Collins, sales manager; J. R. Weeks, H. Greenwald, engineers.

Zero-Aire Corp., 510 N. Dearborn St., Chicago, Ill.

Manufacturers of ZERO-AIRE electric refrigeration units for household, commercial and ice cream and soda fountain use.

W. M. Tippet, president; P. G. Jacobson, vice-president; C. W. Johnson, secretary-treasurer; C. W. Johnson, sales manager; J. H. Denny, chief engineer.

Electric Refrigeration Directory Section 2

Manufacturers of Electric Refrigeration Cabinets

Banta Refrigerator Company, Clearfield, Pa.
Manufacturers of BANTA commercial cabinets.
L. A. Banta, president; W. A. Walker, vice-president; J. Lewis Irvin, secretary; F. B. Kerr, treasurer; W. H. Walker, general manager; W. B. McBride, purchasing agent; G. F. Banta, superintendent.
C. H. Brooks, president; C. T. Brooks, vice-president; J. N. Taylor, sec.-treas.

Benjamin Electric Mfg. Co., 128 S. Sangamon St., Chicago, Ill. Factory at Des Plaines, Ill.

Manufacturers of CRYSTEEL cabinets for household and commercial electric refrigerators; enameling; refrigerator linings; seamless, porcelain enameled.

R. B. Benjamin, president; J. H. Fall, Jr., vice-president and treasurer; W. D. Steele, vice-president and secretary; P. H. Powers, sales manager; E. A. Drake, works manager; E. D. Pellegrin, engineer refrigeration department.

Bohn Refrigerator Company, 1350 University Ave., St. Paul, Minn.
Manufacturers of BOHN SYPHON cabinets for household electric refrigerators.
G. C. Bohn, president; George von Nieda, vice-president; Harold H. Bohn, advertising executive; R. H. Ames, secretary and treasurer.

Crystal Refrigerator Co., Fremont, Neb.
Manufacturers of CRYSTAL and WHITE-STEEL household and commercial cabinets, chocolate candy display cases and grocers' display cases.

Bernard Gloekler Co., 1627-33 Penn Ave., Pittsburgh, Pa.
Manufacturers of GLOEKLER cabinets for household and commercial electric refrigeration, and of commercial display cases.
J. Edward Gloekler, president and treasurer; Karl J. Gloekler, vice-president and secretary; J. B. Rodgers, advertising manager; Joseph F. Kriss, purchasing agent; and H. W. Lindsay, chief engineer.

Heintz Manufacturing Co., Front and Olney Sts., Philadelphia, Pa.
Manufacturers of STEEL PREST household and commercial electric refrigeration cabinets and steel stampings.
L. I. Heintz, president; R. P. Farrington, vice-president and treasurer; F. W. Thacher, vice-president; A. L. Lambert, secretary; W. J. Bryan, sales manager; J. J. Fiechter, works manager; W. C. DeMaris, office manager.

Herrick Refrigerator & Cold Storage Co., Commercial Street, Waterloo, Iowa.
Manufacturers of HERRICK household and commercial refrigerators, cabinets for electric refrigeration and water cooling refrigerators.
Nathan Northey, president; Edward N. Northey, vice-president; H. G. Northey, secretary; W. E. Ogle, treasurer; C. A. LaBarre, factory superintendent.

The Hibbard Company, 6504 Euclid Ave., Cleveland, Ohio. Factory at Parma, Ohio.
Manufacturers of cabinets for household and commercial electric refrigerators; beverage cabinets; UTILITY refrigerators.
H. W. Hibbard, president; I. B. Hibbard, secretary.

Illinois Refrigerator Co., Morrison, Ill.
Manufacturers of household and commercial electric refrigerator cabinets.
Edward A. Smith, president; F. L. Smith, vice-president and general manager; Harry L. Kirberg, treasurer; Humphrey C. Rendall, secretary; Arthur T. Freer, sales manager; Alfred W. Collins, traffic manager.

Jewett Refrigerator Co., 2 Letchworth St., Buffalo, N. Y. Factories at Buffalo, Lackawanna, Bridgeburg, Can.
Manufacturers of JEWETT cabinets for household and commercial electric refrigerators; water coolers and ice makers.
E. B. Jewett, president and general manager; C. D. Wheeler, vice-president and sales manager; R. Jewett, vice-president; H. J. Hedrick, vice-president; B. A. Simon, purchasing agent; R. C. Calkins, works manager.

McCray Refrigerator Sales Corp., Kendallville, Indiana.
Manufacturers of McCRAY household and commercial electric refrigerator cabinets.
E. E. McCray, president and general manager; H. McCray, vice-president; H. M. Stewart, vice-president and general sales manager; J. W. Hart, secretary; R. E. Davis, treasurer; R. S. Moses, assistant sales manager; R. J. Rehwinkel, publicity manager; C. O. Ullin, general factory superintendent; H. E. Culbertson, in charge of Norge sales; R. J. Misselhorn, central sales manager; M. A. Drumheller, western sales manager; W. R. Hawkins, eastern sales manager; V. C. Knight, southern sales manager.

Northey Manufacturing Co., Park Ave. and Bluff St., Waterloo, Iowa.
Manufacturers of NORTHEY household and commercial electric refrigerator cabinets and water coolers.
F. L. Northey, president; Hugh McCartney, general sales manager; A. Snodgrass, factory superintendent.

Rex Manufacturing Co., Western Ave., Connersville, Ind.
Manufacturers of REX household and commercial electric refrigerator cabinets.
Charles C. Hull, president; M. Lair Hull, vice-president; James H. Heron, secretary-treasurer; Jos. T. McKinney, advertising manager; W. O. Hull, purchasing agent; M. R. Hull, factory manager; Edgar Myers, sales manager. Julian Rice, secretary and treasurer; James H. Frazier, sales manager; Frank R. West, chief engineer.

Rhineland Refrigerator Company, Rhineland, Wis.
Manufacturers of AIRTITE cabinets for household and commercial electric refrigerators. R. A. Riek, general manager.

Seeger Refrigerator Company, Arcade-Wells Sts., St. Paul, Minn.
Manufacturers of SEEGER electric refrigerator cabinets for household and commercial use.
John A. Seeger, president; Walter G. Seeger, vice-president; G. R. Seeger, secretary-treasurer; John J. Leonard, sales manager; W. G. Seeger, advertising manager; R. S. Ahrens, chief engineer; G. R. Seeger, works manager; T. LaVelle, works manager; R. A. Carlton, service manager.

The Alaska Refrigerator Company, Muskegon, Michigan.
Manufacturers of ALASKA electric refrigerator cabinets.
J. L. Gillard, general manager.

All Sheet Metal Works, 2949 Elston Ave., Chicago, Ill.
Manufacturers of household, commercial, ice cream and soda fountain electric refrigerator cabinets; water coolers; combination ice cream cabinet and bottle cooler; other special applications; brine tanks and bunkers.
P. J. Wanbach, president; L. C. Campbell, secretary and treasurer.

Arlington Refrigerator Co., Inc., Arlington, Vermont.
Manufacturers of ARLINGTON, ARCO and ARCOSTONE household electric refrigerator cabinets.
John P. Munn, M. D., president; C. M. Rochester, treasurer; A. M. Johnstone, secretary and manager; A. M. Johnstone, general manager; F. E. Merrill, sales manager; R. R. Casey, factory manager.

The Baldwin Refrigerator Co., Burlington, Vt.
Manufacturers of refrigerator cabinets.
George A. Hall, president; Ernest E. Smith, secretary and manager; H. T. Rutter, treasurer.

Brooks Cabinet Co., Inc., 1028 West 27th St., Norfolk, Va.
Manufacturers of BROOKS CABINETS for household, commercial, ice cream and soda fountain electric refrigerators; water coolers.
C. H. Brooks, president; C. T. Brooks, vice-president; J. N. Taylor, sec.-treas.

Cameo Refrigerator Corporation, 973 North Main Street, Los Angeles, Cal. Factories at Los Angeles and Vernon, Cal.
Manufacturers of CAMEO cabinets; enamellers.
Joseph T. Penton, president; R. B. Ahlswede,

John J. Grothe Co., Inc., 5-7 Conn Ave., Zero Bldg., Woburn, Mass.

Manufacturers of ZERO cabinets for electric refrigerators for commercial and ice cream and soda fountain use; water coolers; mechanical refrigerated truck bodies; special cabinets and storage rooms.

James A. Houston, president; Arthur B. Mackay, vice-president; John E. Burke, secretary and treasurer; A. B. Mackay, general manager; Joseph Robbins, factory and service manager.

Gurney Refrigerator Co., Fond du Lac, Wis.
Manufacturers of cabinets for household and commercial electric refrigerators; also of cabinets for ice cream and soda fountain use.
E. G. Vail, president and treasurer; A. D. Thomsen, vice-president; F. A. Foster, secretary; Nicholas Welling, chief engineer; and C. M. Nelson, general superintendent.

Harder Refrigerator Corp., Cobleskill, N. Y.
Manufacturers of KLEEN-KOLD electric refrigerator cabinets.
E. S. Ryder, president; F. H. Ryder, vice-president; G. D. Ryder, secretary-treasurer; F. H. Ryder, general manager; H. L. Merrill, sales manager; G. D. Ryder, advertising manager; E. C. Allen, purchasing agent; A. W. Rowley, chief engineer; G. J. Hopkins, works manager.

Haskelite Manufacturing Corp., 133 W. Washington St., Suite 819, Chicago, Ill. Factory at Grand Rapids, Mich.
Manufacturers of PLYMETL AIR-TIGHT household and commercial cabinets and water coolers.
George R. Meyer, president; James R. Fitzpatrick, secretary; Olin H. Basquin, chief engineer; Frank M. Curran, factory manager.

The Home Products Corp., Jackson, Michigan.
Manufacturers of WHITE FROST and CASTLE household electric refrigerator cabinets.
George H. Hannum, president; H. C. Castle, vice-president; C. B. Castle, secretary-treasurer and general manager; H. A. Matthews, sales manager; G. A. Christman, purchasing agent.

J. T. Manufacturing Co., 668 Lake Shore Drive, Chicago, Ill. Factory at Nashville, Tenn.
Manufacturers of cabinets for household electric refrigerators.
A. C. Jones, president; Jacob Teller, vice-president and sales manager; L. E. Stephens, secretary-treasurer.

Leonard Refrigerator Company, Grand Rapids, Mich. Subsidiary of the Electric Refrigeration Corp.
Manufacturers of LEONARD CLEANABLE cabinets for household and commercial electric refrigerators.
H. W. Burritt, president; H. C. Leonard, vice-president and general manager; A. H. Jaeger, sales manager; Earl Lines, advertising manager; A. J. Mitchell, purchasing agent; H. L. Pope, chief engineer; Barney DeWitt, factory manager.

Louisville Refrigerator Corporation, 4460 Louisville Ave., Louisville, Ky. Factory located at Highland Park, Ky.

Manufacturers of WHITE SEAL cabinets for household electric refrigerators.

H. S. Milton, president and secretary; H. P. Dowling, treasurer; Geo. W. Grove, sales manager.

L. H. Mace & Co., Inc., 55 East 150th St., New York, N. Y.

Manufacturers of MACE household electric refrigerator cabinets.

Samuel Steinfeld, president; Lew Hutzler, treasurer; Wm. Lurie, secretary; Ralph Redell, general manager.

Metz Products Corp., 3061 Rosslyn St., Los Angeles, Calif.

Manufacturers of METZ SUPERINSULATED cabinets for household electric refrigerators.

Walter Metz, president; Edwin H. Metz, secretary-treasurer.

Otteneimer Bros., Inc., Fallway and Hillen Sts., Baltimore, Md.

Manufacturers of OREOLE cabinets for household and commercial electric refrigerators; illuminated and non-illuminated refrigerator display cases.

R. E. Otteneimer, president; B. M. Otteneimer, vice-president; S. M. Otteneimer, secretary-treasurer; R. E. Otteneimer, general manager; L. M. Hess, sales manager; A. T. Golding, advertising and sales promotion manager; J. B. Otteneimer, factory manager.

Progress Refrigerator Co., branch of Louisville Tin & Stove Co., 621 W. Main St., Louisville, Ky.

Manufacturers of PROGRESS electric refrigerator cabinets.

W. L. Hollis, president; C. C. Cloud, vice-president; C. V. Edmonds, secretary-treasurer.

North Star Refrigerator Company, Chattanooga, Tenn.

Manufacturers of cabinets for household use.

G. C. Raoul, president; E. Y. Chapin, vice-president; H. C. Arnold, treasurer; R. J. Frazier, sales and advertising manager; J. M. Alexander, purchasing agent; V. D. Rider, works manager.

Ranney Refrigerator Company, Greenville, Mich.

Manufacturers of cabinets for household and commercial use.

E. W. Ranney, president; L. W. Ranney, vice-president and secretary; H. N. Clement, treasurer.

Reol Refrigerator Co., Hillen and Front Sts., Baltimore, Md. Subsidiary of Otteneimer Bros., Inc.

Manufacturers of REOL cabinets for household and commercial electric refrigerators; illuminated refrigerator display cases.

Southern Soda Fountain Company, 12 East Lombard Street, Baltimore, Md.

Manufacturers of SOUTHERN electrically refrigerated soda fountains.

F. Leif Eareckson, president and treasurer; C. C. Drain, secretary.

The Stanley Knight Co., 218 West Superior Street, Chicago.

Manufacturers of electrically refrigerated soda fountains, operating with either ammonia, sulphur dioxide, or methyl chloride compressors.

Stanley H. Knight, president; Leslie Arnett, sales manager.

Valerius Refrigeration Corp., Jefferson, Wis.

Manufacturers of ICE-O-MATIC soda fountain cabinets, luncheonettes and commissary refrigerators.

T. L. Valerius, president; N. J. Braun, vice-president; P. J. Hayes, secretary; O. Roessler, treasurer.

Copeland

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Electric

REFRIGERATION

630 Lycaete Avenue, Detroit, Michigan

BUSH CONDENSERS

Made in any size or capacity.
Seamless Copper Tubes, Individual Fins, Maximum Efficiency.

BUSH MFG. CO.

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WHITE-HANNA

302 Lincoln Bldg.,

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NORTHEY

REFRIGERATORS

FOR ALL PURPOSES
ANY SIZE, STYLE OR FINISH

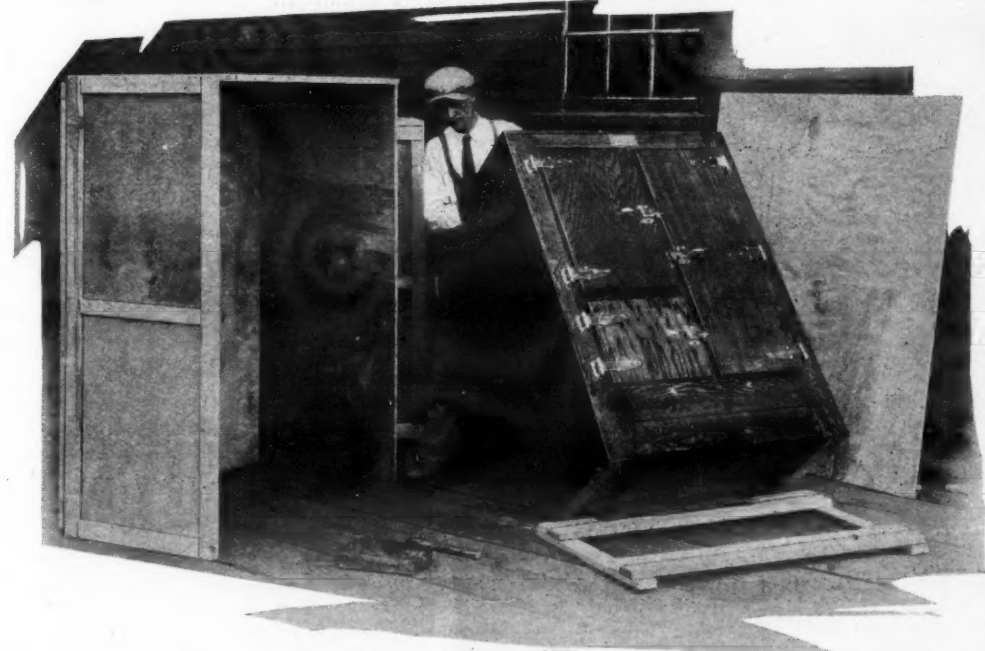
NORTHEY MFG. CO.

WATERLOO, IOWA

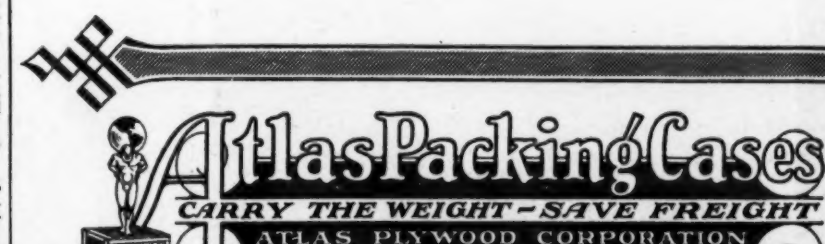
AGENCIES IN MOST LARGE CITIES

Atlas Refrigerator Cases

make
packing
and
unpacking a one-man job



Atlas Refrigerator Cases do not require two or three men to assemble them or take them apart—one man can do either job easily and quickly. Nailing together the four or five lightweight plywood sides takes but a moment; constructing the skids is a simple operation and placing the case around a refrigerator is accomplished in a jiffy. Packers are saved a great deal of labor and the assembled Atlas Cases are protective refrigerator containers that combine great strength and rigidity with extreme lightness in weight. Dealers as well as manufacturers benefit by these advantages because they are saved the expense of refinishing work, a surprising amount in freight charges, and the cost of new containers—Atlas Refrigerator Cases can be re-used.



General Offices: Park Square Bldg, Boston, Mass.

New York Office:
90 West Broadway

Chicago Office:
649 McCormick Building

Electric Refrigeration Directory—Section 3

Parts, Accessories, Materials and Chemicals

Absolute Con-Tac-Tor Corporation, Elkhart, Indiana.
Manufacturers of Mercury CON-TAC-TORS, automatic controls for both refrigeration and oil burner installation.
L. A. M. Phelan, president; Paul W. Petersen, vice-president; R. L. Patrick, secretary; Alex Jager, treasurer; L. E. Koch, chief engineer; J. Zwolanek, sales manager.

Ansul Chemical Co., Marinette, Wis.
Manufacturers of ANSUL chemicals.
F. G. Hood, president; H. V. Higley, secretary; W. R. Giles, chief chemist.

American Radiator Company, 816 South Michigan Avenue, Chicago, Ill.
Industrial Division—Factories at Springfield, Ill., and Detroit, Mich.
Manufacturers of cast iron cooling units, float valves, automatic expansion valves, and job foundry work of all kinds for the refrigerating industry.
Accessories Division—Factory at Detroit, Mich.
Manufacturers of MERCROID controls for domestic refrigeration.

Atlas Plywood Corp., 934 Park Square Bldg., Boston, Mass. Factories at Stockholm, Me., Greenville, Me., Richford, Vt., Montgomery Center, Vt., Morrisville, Vt.
Manufacturers of ATLAS REFRIGERATOR CASES, Plywood shipping containers for refrigerators.
R. M. Buck, president; T. R. Winchell, vice-president; E. M. Soucy, treasurer.

Bush Mfg. Co., 100-110 Wellington St., Hartford, Conn.
Manufacturers of seamless copper tubing condensers with individual fins.
Richard J. Goodman, president; James W. Hatch, treasurer; Edw. M. Flannery, assistant secretary; James W. Hatch, general manager; Charles W. Cooksey, production manager; Edward M. Flannery, purchasing agent.

Commonwealth Brass Corporation, 5781-5835 Commonwealth Ave., Detroit, Mich.
Manufacturers of brass pipe and tube fittings, forged brass parts, and automatic screw machine products.
P. D. Dwight, president; N. A. Henwood, vice-president and general manager; L. J. Bulkley, secretary-treasurer; and C. S. Kellum, factory manager.

Cooke Seal Ring Co., 20 N. Green St., Chicago, Ill.
Manufacturers of COOKE Seal Rings.

Cork Import Corp., 345 W. 40th St., New York, N. Y. Factories at Port Newark, N. J., and at Palafrugell, Palamos Figueras Bagur Santa Cristina, Fegenda de la Sierra and Caceres, Spain.
Manufacturers of NOVOID corkboard, NOVOID cork covering.
H. H. Straus, president; W. V. Landeck, vice-president; T. N. Word, secretary and treasurer; J. H. Stone, general sales manager; Wm. F. Grupe, chief engineer; J. L. Bauer, sales manager; F. G. Cart, Jr., assistant sales manager; A. W. Morse, advertising agent; and P. Eberle, purchasing agent.

Electrical Testing Laboratories, 80th St. and East End Ave., New York, N. Y.
Test reports and data on overall performance or on electrical mechanical, or chemical equipment; reports and data are client's property.
John W. Lieb, president; C. H. Sharp, Ph.D., vice-president and technical director; Preston S. Millar, general manager; F. Malcolm Farmer, M. E. chief engineer; Norman D. MacDonald, sales manager.

Fedders Mfg. Co., Buffalo, N. Y.
Manufacturers of water coolers; other special applications; tubing; condensers and expanders; thermostats; float valves and other control devices; brine tanks; freezing units; expansion valves; liquid receivers; filters; strainers; trays and grids.
L. F. Fedders, president; J. M. Fedders, vice-president; C. W. Fedders, vice-president; T. C. Fedders, treasurer; H. M. Yeager, vice-president; H. L. Heitzman, secretary.

The Ferro Enamel Supply Co., 2100 Keith Building, Cleveland, O.
Manufacturers of porcelain enamels for refrigerator linings and complete parts. Designers and builders of all types of muffle furnaces and other equipment for porcelain enameling refrigerator linings and parts.
R. A. Weaver, president; H. E. Ebright, vice-president; D. J. Needham, secretary; and H. L. Brooks, treasurer.

Flintlock Corp., 4461 Jefferson Ave. W., Detroit, Mich.
Manufacturers of FLINTLOCK condensers and expanders.
C. H. L. Flintermann, president; John Karmazin, vice-president; Elis L. Larson, sales manager.

Goodnow & Blake Mfg. Co., 3840 Beaver St., Detroit, Mich.
Manufacturers of thermostats, suction controls, high pressure cut-outs and other control devices; shaft seals and floats.
Geo. J. Korte, president; A. F. Korte, vice-president; E. B. Goodnow, secretary and treasurer; Manuel Lassen, consulting engineer.

The International Nickel Co., Inc., 67 Wall St., New York, N. Y. Factories located at Huntington, W. Va.
Manufacturers of INCO Monel Metal sheet, strip, rod, castings, screws, bolts, rivets, etc.
R. C. Stanley, president; J. F. McNamara, salesmanager Monel Metal and Rolled Nickel Department.

Kerotest Manufacturing Co., 2525 Liberty Avenue, Pittsburgh, Pa.
Manufacturers of forged brass cylinder and shut-off valves and fittings.
Edward G. Mueller, president; R. W. Mueller, vice-president; W. G. Swaney, secretary; and John S. Forbes, treasurer.

Motors Metal & Mfg. Co., 5963 Milford Avenue, Detroit, Michigan.
Manufacturers of ice cream cabinets (complete or metal parts ready for assembly) and special cabinets; monel covers and lids; perforated metal guards to cover units; welded angle iron bases for mounting freezing units; outside and inside sheet metal panels for cabinets; complete household refrigerator cabinets.
Robert R. McMath, president; George D. Shanahan, general manager; Nelson C. Johnson, secretary and treasurer; Ferris B. Fick, general sales manager; R. M. Halsted, assistant to general sales manager; George W. Burke, assistant sales manager; E. J. Sullivan, factory manager; Vincent Corrado, chief engineer; James Easton, production manager; R. H. Hall, purchasing agent.

Penn Electric Switch Co., 306 Twelfth St., Des Moines, Iowa.
Manufacturers of thermostats and other control devices, high and low pressure safety switches, pressure-vacuum operated control switches.
Albert Penn, general manager and sales manager; Ralph Penn, advertising manager; M. D. Disosway, factory manager.

The Rome-Turney Radiator Company, Rome, New York.
Manufacturers of HELICALFIN condenser tubes, refrigeration condensers, stampings of copper and brass, trays, grids, liquid receivers, brine tanks, etc.
W. L. Lynch, president and treasurer; J. J. Baylan, secretary.

E. J. Wirfs Organization, Inc., 135 S. 17th St., St. Louis, Mo.
Manufacturers of Wirfs AIRTITE cushion gasket.
E. J. Wirfs, Sr., president; A. H. Smith, vice-president; E. J. Wirfs, Jr., secretary-treasurer; A. H. Smith, director of sales; E. J. Wirfs, Jr., advertising manager; R. A. Tris, purchasing agent; Geo. H. Jaromack, factory manager.

Virginia Smelting Co., West Norfolk, Va.
Manufacturers of chemical, extra dry Esotop; sulphur dioxide (anhydrous).
W. E. C. Eustis, president; A. H. Eustis, vice-president; F. A. Eustis, secretary.

Wilder Metal Company, Niles, O.
Manufacturers of WILDER Metal Sheets for Brine Tanks, cooling units, inside linings, and refrigerator parts. Steel stampings processed with Wilder Metal.
John Wilder, president; P. C. DeVoe, vice-president and secretary.

Winters & Crampton Manufacturing Co., Commerce Avenue and Goodrich Street, Grand Rapids, Mich.
Manufacturers of refrigerator hardware.
A. F. Winters, president; B. R. Crampton, vice-president and treasurer; H. E. Bouwknecht, secretary; and R. A. Gilbert, works manager.

Wolverine Tube Co., 1411 Central Ave., Detroit, Mich.
Manufacturers of copper tubing, coils, and condensers.
Chas. C. Limbocker, president; Harry J. Hooks, secretary and treasurer; G. R. Anthony, vice-president.

Acme White Lead and Color Works, Detroit, Mich.
Manufacturers of lacquer enamels, clear enamels, oil enamels, interior refrigerator finishes, primers, sealers and varnishes.

Advance Electric Co., 6315 Maple Ave., St. Louis, Mo.
Manufacturers of ADVANCE motors for commercial electric refrigeration machines.
Edward Bretsch, president; A. L. Canavan, vice-president.

Albaugh-Dover Mfg. Co., 21 Marshall Blvd., Chicago, Ill.
Manufacturers of AD gears.
P. A. Mortenson, president; O. Dover, vice-president; F. G. Eppley, vice-president; W. E. Smith, secretary; E. W. Buck, treasurer; O. Dover, general manager; M. T. Welters, purchasing agent; W. R. Schwab, M. E. chief engineer; E. F. Eppley, works manager.

The Allen Filter Co., 25-43 South St. Clair Street, Toledo, O.
Manufacturers of water coolers for electric refrigeration.
E. P. Mull, president; W. S. Ramsay, vice-president, factory manager, and purchasing agent; G. D. Taylor, secretary.

Aluminum Company of America, General Sales Office, Pittsburgh, Pa.
Manufacturers of aluminum sheet and moulding for refrigerator trimming. Also aluminum ingot, permanent mould castings, die castings, sand castings, forgings, tubing, wire, rod, aluminum bronze powder, automatic screw machine products, stampings, and fabricated parts.
R. E. Powell, assistant sales manager, Pittsburgh, Pa.

American Rolling Mill Co., Middletown, O.
Manufacturers of enameled stock, galvanized ARMO ingot iron, alloy coated steel, ARMO ingot iron, furniture steel, ARMO ingot iron furniture stock.

American Solder & Flux Co., 2910 No. 16th St., Philadelphia.
Manufacturers of self-fluxing solders and fluxes.
F. D. McBride, president.

Arcade Mfg. Co., 1212 E. Shawnee St., Freeport, Ill.
Manufacturers of household and commercial refrigerator hardware, hinges, locks, corners, traps, etc.
E. H. Morgan, president; L. L. Munn, vice-president; I. P. Gassman, secretary; B. C. Trueblood, treasurer; L. L. Munn, general manager; I. P. Gassman, sales and advertising manager; T. J. Bordner, purchasing agent.

Armstrong Cork & Insulation Co., 24th St. and Allegheny River, Pittsburgh, Pa., Branch of Armstrong Cork Co. Factories at Beaver Falls, Pa., Camden, N. J., and Seville, Spain.
Manufacturers of corkboard insulation; cork pipe covering.
C. D. Armstrong, president; C. D. Armstrong, Jr., vice-president; C. R. Lyle, vice-president; C. R. Lyle, sales manager; S. L. Barnes, advertising manager; E. E. Baker, purchasing agent.

Beaver Machine & Tool Company, Inc., 625 North Third Street, Newark, N. J.
Manufacturers of various wire device connections such as attachment plugs for connection with house line.
Ernest B. Slade, president; Harold E. Slade, vice-president and secretary; James M. Wolf, treasurer; Ernest B. Slade, general manager and sales manager; Harold E. Slade, advertising manager and purchasing agent; John Gehring, chief engineer; Louis E. Eisele, factory superintendent.

Berry Brothers, 211 Lieb St., Detroit, Mich.
Manufacturers of BERRYLOID LACQUER LIONOIL, enameling, rustproofing materials, varnishes and stains.
F. L. Colby, president; W. R. Carnegie, vice-president; George V. Blenkarn, treasurer; F. L. Colby, Jr., secretary.

The Century Electric Company, 1806 Pine Street, St. Louis, Mo.
Manufacturers of motors for household and commercial electric refrigerators.
E. S. Pillsbury, president; S. M. Jones, vice-president; R. J. Russell, vice-president and secretary; and J. L. Woodress, sales manager.

The Dent Hardware Co., Fullerton, Pa.
Manufacturers of hardware (fasteners, latches, corners, traps, hinges, etc.) for domestic and commercial refrigerators.
H. H. Dent, president; H. P. Newhard, secretary and general manager; C. C. Kaiser, treasurer; H. C. Dent, assistant sales manager; and John A. Storm, factory manager.

Dole Valve Co., 1913 Carroll Ave., Chicago, Ill.
Manufacturers of electric refrigerating machinery for household, commercial, and soda fountain use.
A. R. Dole, president; H. W. Kleist, vice-president and chief engineer; J. D. Hollowell, secretary and general manager; F. H. Tweed, treasurer.

The Domestic Electric Co., 7209 St. Clair Ave., Cleveland, Ohio.
Manufacturers of DOMESTIC motors for household and commercial electric refrigerators.
C. A. Duffner, president; M. H. Spielman, vice-president; A. N. Kellogg, treasurer; C. A. Duffner, general manager; E. S. Sabin, sales manager; M. W. Phelps, purchasing agent; J. D. Cole, chief engineer; W. H. Poesse, works manager.

Dunning Pump & Manufacturing Company, 326 Walnut Street, Philadelphia, Pa.
Manufacturers of DUNNING electric refrigerating machines for household and commercial use, pumps and compressors, float valves, evaporators, and machine bases.
E. Dunning, president; H. Smith, secretary; and F. L. Hoffstaedter, treasurer.

E. I. DuPont de Nemours & Co., Inc., Chemical Products Division, Parlin, N. J.
Manufacturers of chemicals, paint, DUPONT DUCO and varnish, finishing materials.

Dry-Zero Corporation, 130 North Wells Street, Chicago, Ill.
Manufacturers of DRY ZERO pliable and blanket insulation.
Harvey B. Lindsay, president and general manager; F. S. Young, vice-president; E. T. Munson, secretary-treasurer; J. J. Hagan, assistant secretary; D. E. Baum, assistant treasurer; Gale T. Pearce, engineer in charge of sales; and A. L. Clements, factory superintendent.

D. A. Ebinger Sanitary Mfg. Co., 180 Lucas St., Columbus, O.
Manufacturers of EBCO water coolers.
D. A. Ebinger, president; D. H. Ebinger, vice-president and general manager; H. H. Luckart, secretary; D. A. Ebinger, treasurer; H. H. Luckart, sales manager; A. E. Smith, refrigeration department sales manager; J. A. Tharpe, purchasing agent.

The Erie Metal Furniture Co., Erie, Pa.
Manufacturers of mechanical refrigeration cabinets.
W. H. Knobloch, president and general manager; D. A. Currie, vice-president; E. Bauhard, secretary; C. E. Crouch, treasurer.

Gurney Ball Bearing Company, Jamestown, New York.
Manufacturers of bearings for every application.

Henry K. Smith, president; A. C. Davis, vice-president; J. H. Walters, secretary and treasurer; H. A. Johnston, sales manager; S. W. Brandel, superintendent.

Excelsior Motor Mfg. & Supply Co., 3701 Cortland St., Chicago, Ill.
Manufacturers of EXCELSIOR household and commercial electric refrigerator units, pumps and compressors, control devices, drop-forged flanged valves and fittings for ammonia service.

Ignaz Schwinn, president; Frank W. Schwinn, vice-president and general manager; J. M. Grossmith, secretary; Ignaz Schwinn, treasurer; M. W. Crawford, sales manager, refrigerator division; Gid Haynes, sales manager; Wesley G. Paulson, advertising manager; J. E. Anderson, purchasing agent; A. F. Anderson, chief engineer, refrigeration division; D. E. Rutishauser, manager, service engineering department.

Federal Asbestos & Cork Insulation Co., 931 30th St., Milwaukee, Wis.
Manufacturers of FEDERAL cabinets for household and commercial electric refrigerators.
Charles Dieringer, president.

Federal Gauge Co., 504 W. Adams St., Chicago, Ill.
Manufacturers of MERCROID controls and thermostats.
L. H. Van Ness, president; J. W. Owens, vice-president, Chicago office; N. J. Allaben, vice-president, New York office; M. Howard, vice-president, San Francisco office; W. C. Capen, vice-president, St. Louis office; E. J. Holland, secretary; F. W. Peterson, treasurer.

Fidelity Electric Co., 331 N. Arch St., Lancaster, Pa.
Manufacturers of FIDELITY motors for household and commercial electric refrigeration machines.

Kulair Corp., Industrial Bldg., Preston St. and Brentwood Ave., Baltimore, Md.
Manufacturers of condensers and expanders, and thermostats.
Phillips F. Lee, president; W. W. Moss, vice-president and treasurer; Frank C. Brady, secretary; G. W. Gail, engineer.

Leachwood Co., Janesville, Wis.
Manufacturers of corrugated metal bellows of seamless type, compressor seals, thermostatic controls, pressure controls, high pressure cut outs, expansion valves, float valves, and floats.
P. J. E. Wood, president; W. C. Lagerman, vice-president and factory manager; E. J. Leach, secretary and treasurer; W. C. Armistead, chief engineer.

Marathon Electric Mfg. Co., Wausau, Wis.
Manufacturers of MARATHO "OK" motors for electric refrigerators.
J. S. Alexander, president; A. P. Woodson, vice-president; L. H. Wheeler, treasurer; L. H. Wheeler, general manager; J. W. Kapis, sales and advertising manager; W. N. Baldwin, purchasing agent; R. O. Gilburg, superintendent.

Master Electric Company, Linden and Master Avenues, Dayton, O.
Manufacturers of MASTER motors for household and commercial machines.
E. P. Larsh, president; W. R. Clements, vice-president; J. O. Wortman, secretary; H. E. Kline, treasurer.

McCord Radiator & Mfg. Co., East Grand Blvd. and Ripele St., Detroit, Mich. Factories at Detroit, Plymouth, Ind., and Walkerville, Ont.
Manufacturers of tubing, condensers and expanders, enameling, gaskets, diaphragms, stampings (steel, brass and copper).
A. C. McCord, president; C. R. Hammer, vice-president and treasurer; Morrill Dunn, vice-president in charge of sales; P. L. Barter, vice-president in charge of sales; E. O. Bodkin, advertising manager; J. Cooper, purchasing agent; J. Harris, chief engineer; R. M. Hyde, engineer; C. W. Owston, vice-president and works manager; F. W. Hicks, factory manager.

Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Manufacturers of tubing.
O. B. Mueller, president and general manager; F. L. Riggins, secretary and sales manager; R. W. Peden, treasurer; Robert Mueller, vice-president (Decatur, Ill.); Reuben Levine, advertising manager; H. A. McDermott, purchasing agent; C. A. Hill, chief engineer; D. E. Lindquist, superintendent.

The National Copper & Smelting Co., 12120 Euclid Ave., Cleveland, Ohio. Factory at 1893 Colman Road, Cleveland.
Manufacturers of brass and copper seamless tubing.
H. L. Smith, president; H. F. Taylor, vice-president; Homer B. Smith, secretary; C. L. Smith, treasurer; H. B. Smith, general manager; George Staffeld, factory manager.

Refrigeration Products Co., 670 E. Woodbridge St., Detroit, Mich.
Manufacturers of rotary compressors.
John C. Schott, president; Ray E. Davis, secretary-treasurer.

The Ohio Electric and Controller Co., 5900 Maurice Ave., Cleveland, Ohio.
Manufacturers of OHIO electric motors.
F. W. Jesson, president; A. D. Walter, vice-president; C. Whittier, secretary and treasurer; F. H. Diver, sales manager.

Pure Cork Products Company, Inc., Suite 600, Shubert Building, 250 South Broad Street, Philadelphia, Pa. Factories in Spain.
Manufacturers of pure sheet corkboard and complete line of cold temperature insulation accessories.
Leon Lewis, president; Morris Volsman, vice-president; William Miller, secretary and treasurer; and H. T. Hellbrueck, general manager.

The Roessler & Hasselbacher Chemical Co., 709 Sixth Avenue, New York City. Factories at Niagara Falls, N. Y., Perth Amboy, N. J., and St. Albans, W. Va.
Manufacturers of Arctic (Methyl Chloride) Ethyl Chloride; chemicals, minerals, and oxides for ceramic purposes and electro-tinning chemicals.

W. A. Hamann, president; H. R. Carveth, first vice-president; P. Schleussner, second vice-president and secretary; Albert Frankel, treasurer; Milton Kutz, manager of sales; T. Coyle, service engineer.

Sherer-Gillett Co., 1701-09 S. Clark St., Chicago, Ill. Factories at Marshall, Mich.; Herkimer, N. Y., and Guelph, Ontario.
Manufacturers of freezer display and storage cases.
S. J. Sherer, president; R. P. Sherer, vice-president; Edw. Cohn, secretary-treasurer; W. R. Featherstone, sales manager; W. T. Sherer, production manager.

Stow Mfg. Co., Inc., 443 State St., Binghamton, N. Y.
Manufacturers of motors for commercial electric refrigerator machines, grinders for interior cabinet work, grinders for lap and electric wells.
C. F. Hotchkiss, president; D. Walker Wear, vice-president and treasurer; C. E. Hotchkiss, Secretary; D. Walker Wear, general manager; Jas. P. Dickinson, factory manager.

C. J. Tagliabue Manufacturing Company, 18 to 85 33rd Street, Brooklyn, N. Y. Factories at Brooklyn, N. Y., and Cleveland, Ohio.
Manufacturers of SNAPON automatic controller for refrigerators, thermostats, and other control devices; recording, dial, industrial, and laboratory types of thermometer; air-operated, self-operated, electric contact and other types of automatic controllers; gas analysis recorders, oil testing instruments, and safety shut-off valves.
Cary D. Waters, president; Lawrence C. Irwin, vice-president and general manager; Miss E. C. Boettcher, secretary-treasurer; Harvey D. Cooke, sales manager; Manoel F. Behar, advertising manager and sales promotion manager; Henry J. Nichols, purchasing agent; Victor Wichum, chief engineer; H. A. Birdsall, works manager; and Henry Hall, factory manager.

United Cork Companies, Grant Ave., Lyndhurst, N. J.
Manufacturers of CRESCENT corkboard insulation.
Edward Bose, president; Edwin J. Ward, secretary; Peter Binzel, Jr., treasurer; L. T. Sibley, sales promotion manager; Q. J. Schwarz, superintendent.

United Wire and Supply Corporation, Auburn, R. I.
Manufacturers of return bends for condenser units, coiled tubing, and silver solder in all grades.

Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo.
Manufacturers of motors for household and commercial electric refrigerators.
P. B. Postlethwaite, president; A. H. Timmerman, vice-president; G. L. Evans, vice-president; J. W. Westcott, secretary; V. W. Bergenthal, treasurer; E. H. Cheney, sales manager; E. A. Forkner, small motor sales manager; J. B. Eby, purchasing agent; G. A. Water, chief engineer; G. B. Evans, general superintendent; J. H. Devor, service manager.

Western Automatic Machine Screw Co., Elyria, Ohio.
Manufacturers of screw machine products for use in the manufacture and assembly of electric refrigerators, standard cap and set screws, semi-finished nuts, studs and taper pins.
B. C. Franklin, vice-president and general manager; F. H. Bryant, secretary; C. H. Smith, treasurer; R. D. Oldfield, sales manager; F. H. Bryant, purchasing agent.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Manufacturers of motors for commercial machines.
C. D. Kester, Synchronous motor section, motor apparatus sales.

Wood Conversion Company, 360 North Michigan Avenue, Chicago; Mills at Cloguet, Minn.
Manufacturers of BALSAM-WOOL Insulation for refrigerator cabinets; also of half-inch insulating board.

Wolfe Engineering and Mfg. Co., 1408 Vernon St., Harrisburg, Pa.
Manufacturers of compressors and electric refrigeration equipment.
F. S. Wolfe, president.

NOTICE

Enter your subscription to ELECTRIC REFRIGERATION NEWS now and take advantage of the low rate—only \$1.00 per year. The advanced rate takes effect September 15, 1927.

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REFRIGERATION STAMPINGS

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METAL HOUSEHOLD REFRIGERATORS (Complete) OR CAN FURNISH
OUTSIDE STEEL PANELS, INSIDE LININGS, LOUVERED PANELS,
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ROME CONDENSERS

are formed in any shape of one piece of seamless copper tubing, fitted with heavy gauge copper radiating fin. Rome condensers are five times as efficient as plain tubes.



ROME-TURNEY RADIATOR CO. ROME, N. Y.

UNDERSTANDING MACHINE HELPS WOMAN USER IN GETTING BEST RESULTS

Says Director of Staff Studying Mechanical Refrigeration for Magazine

Mildred Maddocks Bentley, of the staff of the *Delineator* Home Institute, discussed the electric refrigerator as it has been studied by her and her associates in the May number of the *Delineator*, parts of her article being given here as follows: "To many housekeepers the touted performance of electrical, or the more accurate term, mechanical refrigerators, has been almost sheer magic. It is difficult to believe that the promise of even automatically controlled temperatures would revolutionize the housekeeper's buying habits; at least so far as food products were concerned. But frankly it is practically true. It was primarily to furnish authoritative answers to the questions that our readers were sending us that *Delineator* Home Institute initiated, over six months ago, a study in both practical and technical research in refrigeration and food storage in the home. We have used in this period most of the best known and widely distributed mechanical refrigerators. But the survey is in no sense of the word exhaustive; next year we will know far more than we do today. However, in accordance with the policy of the Home Institute we are promptly passing on to our readers such information as we now have to help them.

Refrigerator Process Briefly Told

"The operation of any refrigeration machine is the direct opposite of the more familiar process of converting heat into work, as in the steam engine; but it is no less identical in principle. In refrigeration there is a conversion of work into heat in such a way that heat is extracted from the surrounding atmosphere within the refrigerator, when, presto, 'cold' is obtained.

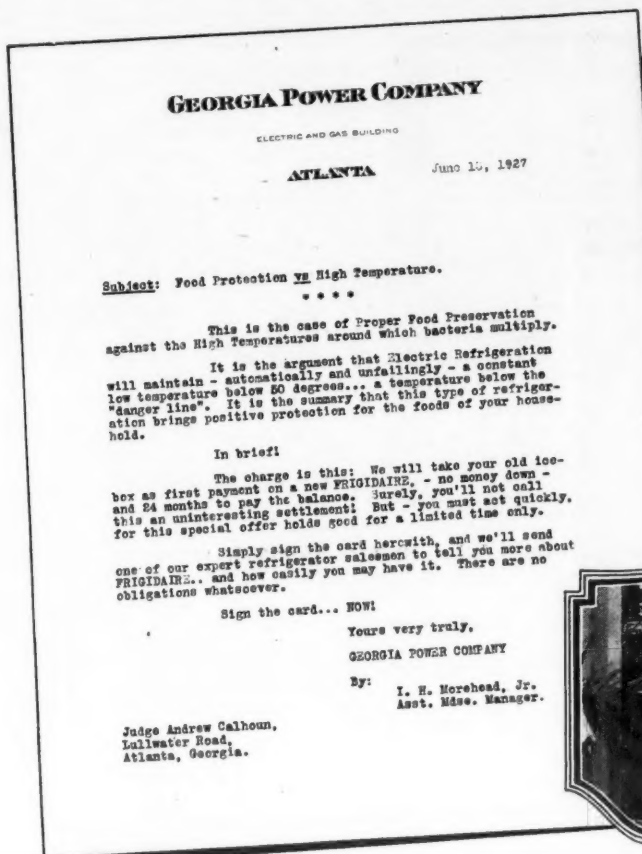
"According to the old law of physics, on which most of us need to brush up a bit, heat cannot pass from a cold to a hot body without the expenditure of outside energy. In the case of mechanical refrigerators, this external energy is an engine, or in the case of household sizes, an electrically driven motor.

"But energy and the refrigerator cabinet are not the only factors. The salesman offers you controlled temperatures, hence the system must be equipped with a delicate regulator that will control the energy used to give these controlled temperatures. The plant, then, is made up of three principal parts: the motor and compressor; the cooling unit with the regulator; and the refrigerator cabinet. The working apparatus is charged with the chemical selected as the refrigerant. For this there must be used a compound that can be alternately liquefied and vaporized and with comparatively little effort."

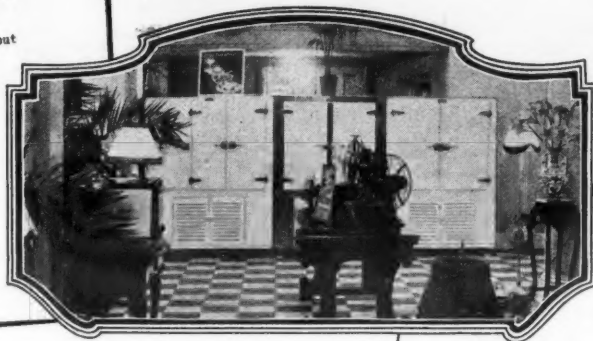
Explains Variable Temperatures

Following the above paragraphs comes a detailed consideration of the operation, of the refrigerant used, of the whole process. This is done because "in our experience, the housekeeper who most thoroughly understands the principle of operation in

"Say It with Letters"—Motto of Georgia Power Company, Atlanta, in Recent Campaign Which Sold a Half-Million Dollars Worth of Electric Refrigerators



Atlanta Lawyers Received This Letter



A Glimpse of the Showroom

her machine labor-savers, will use them most intelligently and obtain the most satisfactory results. Moreover, modern housekeepers are keyed to such an interest and appreciation.

"Temperatures within these refrigerators are, of course, variable, depending on the setting of the regulator, and on the energy expended. Close testing of this phase must be done in empty refrigerators, since food products offer ever-changing factors depending on the amount of food in the cabinet and on the surrounding room temperatures.

"In this case our results indicate that for every ten-degree rise in room temperature the cabinet temperature rises approximately four degrees. And since warm air tends to rise, the bottom of the refrigerator is colder than the top. In an empty cabinet this difference is approximately seven degrees. It increases sharply if the air circulation is retarded by packing things too closely in the cabinet, for instance.

Can Figure Cost in Own Locality

"We have further found that an average-size electrically operated refrigerator cabinet of seven cubic food-compartment capacity consumes approximately 1.8 kilowatt hours per day in a room at 75 degrees Fahrenheit. At ten cents per K.H. the daily cost is eighteen cents. You can easily translate this into cost of operation in terms of your own local rate and your present expenditure for ice.

"Of course, this figure will not be exact

for every one. Much will depend on the way you handle your refrigerator. Do not plan meals with the ice box doors open to refresh your memory. Keep all wet or moist foods covered, since the moisture requires more current to dispose of it. It is costly to leave open bottles of water, etc., in the refrigerator.

"Be especially careful with left-overs that they are cooled before you set them away. Warm foods will take their own toll in the cost of operating.

"Do not wash this type of refrigerator with hot water. Instead, keep it clean by wiping up any spot of soil as soon as possible. Use cold water in which either borax or baking-soda has been dissolved, and wipe dry at once.

Frost Acts as Insulator

"It was figured that about two-thirds of the air-cooling cost is due to the necessity of removing moisture from the air. Even though it is taken from the air within the cabinet, it is not really removed, for you will find it as ice or frost on the coils or brine tank. Here it acts as an insulating blanket, keeping the machine laboring to perform an impossible task. Frost should never be allowed to accumulate; shut off the current long enough to melt it, draining into the pan provided."

The article, only a brief part of which is given here, deals at length with the new handling and storing of foods developed by the use of the mechanical refrigerator. A chart shows the condition of foods after certain periods of time in the refrigerator, and conclusions are drawn therefrom.

Stover Company Holds Sales Convention in Madison, Wis.

More than fifty dealers and salesmen connected with the Stover Company of Chicago and the Frigidaire Company attended a convention at the Hotel Loraine, Madison, Wis., on July 20. The convention, which was one of the series held at regular intervals of about two months, was in charge of the Stover Company, Chicago, and its sessions were devoted to work in training salesmen and in educational lectures on servicing the Frigidaire machines. M. H. Hamelin is division sales manager for the Frigidaire in the Madison district.

N. Y. Hotel To Be Equipped With Gas Refrigerators

The first apartment hotel to be completely equipped with refrigerators operated by manufactured gas is now under construction in New York City, and will be ready for occupancy next October, according to *Building Investment and Maintenance* for June, 1927.

One hundred units are being installed immediately, with sixty-seven to follow later, all being of the type manufactured by the Electrolux-Servel Corporation, 51 East 42nd Street, New York.

The hotel to be so equipped is the 22-story "Lombardy" which is being erected on 56th Street near Park Avenue.

Collin Named Salesmanager of Alaska Company

John L. Collin, formerly western sales manager of the Alaska Refrigerator Company, has been named as director of sales to succeed Joseph Bond, who has resigned. His appointment is said to be one of the first steps in a nation-wide selling campaign of the Alaska Refrigerator Company, which is this year celebrating its fiftieth anniversary.

How "they" do it always interests the other fellow. The Georgia Power Company of Atlanta, when it was planned to sell half a million dollars' worth of electric refrigerators in two months, decided to do part of it with letters.

The letters which follow and those which are reproduced in the illustration are a few of those written during the campaign of this company. The first one was written to 400 hundred physicians and surgeons.

"Dear Dr. —: Bacillus Botulinus develops a powerful poison in the food that it infects.

"But the organism does not grow well at temperatures below 50 degrees; therefore, proper refrigeration protects foods from it.

"Of course, we know that the appearance of so deadly a poison in our foods comes but rarely, if ever. But isn't it worth the necessary precaution? Isn't it wise to investigate whether or not YOUR HOME has the kind of refrigeration which your knowledge of health-protection tells you is correct?

"Electric refrigeration is the one perfect type of refrigeration.

"The United States Government sees that meats from the great packing houses are kept at constant low temperatures from the time they are dressed, put into refrigerator cars and delivered to your meat market. But, unless you keep them at a temperature below 50 degrees when they are brought to your home, bacteria are likely to multiply.

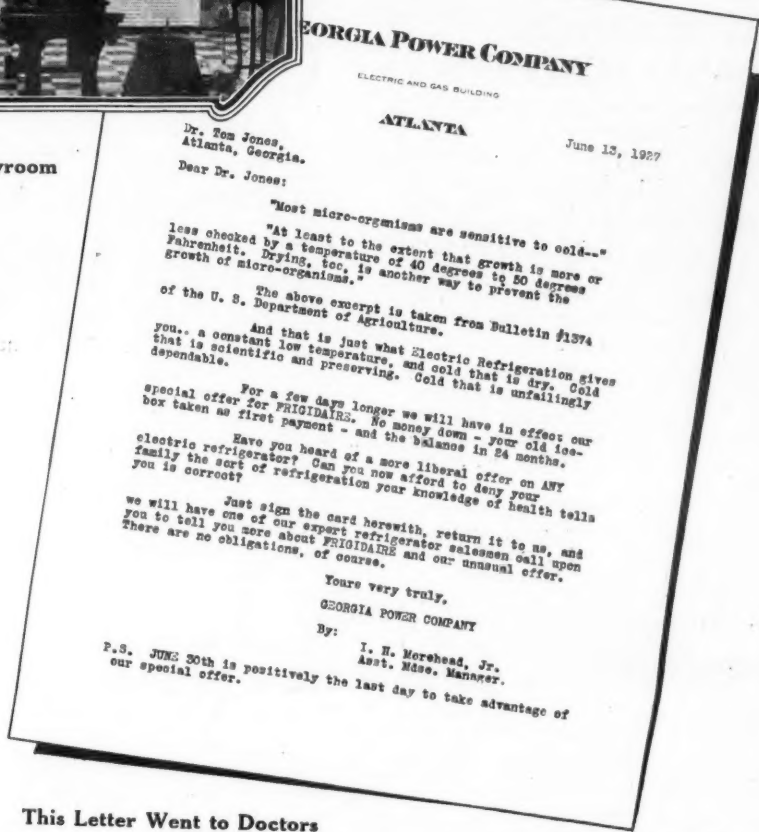
"Isn't it wise to take every possible precaution?

"Electric refrigeration is the one perfect type of refrigeration! And for a few days longer our special offer for Frigidaire will be in effect. No money down (your old ice-box taken as first payment) the balance in 24 monthly payments along with your electric service statement.

"Sign the enclosed card. It will bring an expert refrigerator salesman to your home or office."

And this was sent to customers in a town to which Georgia Power Service was extended during the campaign:

"Now—you, too, have presented to you the most amazing offer on electric refrigeration ever made in the south not only, but in the entire nation. Our special offer of no money down, your old ice-box accepted as down payment, and 24 months



This Letter Went to Doctors

"For a few days longer our special offer for Frigidaire will be in effect. No money down (your old ice-box taken as first payment) the balance in 24 monthly payments along with your electric service statement.

"The enclosed card, when returned to us, will bring an expert refrigerator salesman to your home or office to discuss this vital question of proper refrigeration. There will be no obligations, of course."

A second letter sent to 500 lawyers was this one:

"Authorities agree that there can be no compromise on this fact!

"That is, that the foods we eat must be protected with proper refrigeration.

"It is absolutely imperative that milk, meats and vegetables be kept as fresh as possible from the time they are produced until we consume them.

to pay, on a Frigidaire is open to our customers in Social Circle.

"Surely you have given much thought in the past few months to the wonders of this modern-day refrigeration. And now . . . we want you to see a Frigidaire in operation. Hence, we have installed in the Social Circle Drug Company one of these electric refrigerators. Won't you stop by today and see how it operates?

"You'll want to see how it properly preserves food, protects health, offers the most complete and efficient refrigeration known. Learn, too, about its completely automatic action and how economical it is to operate.

"Our special offer, open to all customers of the Georgia Power Company, closes on June 30th. So there isn't much time left.

"See a demonstration . . . today!"

THERMOSTATS

SHAFT SEALS — FLOATS
HIGH PRESSURE
CUT-OUTS

GOODNOW & BLAKE MFG. CO.

Automatic Controls for Refrigeration and Oil Burners

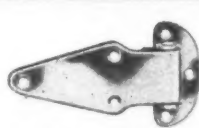
LIGHT
STAMPINGS

Engineering Department
at Your Service

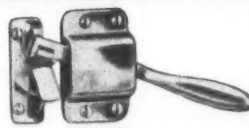
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Patented—Springless
Automatic



Builders of Distinctive Refrigerator
Hardware for



Patented
TRIPLOCK

Electric Refrigeration

WINTERS & CRAMPTON MFG. CO.

GRAND RAPIDS, MICH.

Wilder Metal Sheets

The Proven Product for

Brine Tanks : Cooling Units
Inside Linings : Refrigerator Parts

Let us send you samples for your experimental shipment. Our mill warehouse is at your service for prompt shipments

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NILES, OHIO

EXTRA DRY ESOTOO

TRADE MARK

THE PUREST

SULPHUR DIOXIDE

Analysis Guaranteed

We have an agent, with our product in stock, near you
Wire us where we can serve you

VIRGINIA SMELTING CO., WEST NORFOLK, VA.

F. A. EUSTIS, Secretary

131 STATE ST., BOSTON

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SPECIFY ANSUL SULPHUR DIOXIDE

The Product with a Factor of Safety

ANHYDROUS SULPHUR DIOXIDE
Absolute Protection for Refrigeration

ANSUL CHEMICAL COMPANY

MARINETTE, WIS.

REQUESTS FOR INFORMATION

The following inquiries have been received by ELECTRIC REFRIGERATION NEWS. Readers who can supply information on these subjects are invited to write at once, referring to the Query number.

Query Number 33—"The writer is endeavoring to compile data on electric refrigeration such as is contained in the enclosed blue print, which you will observe is operating costs on motor vehicles." (The blue print referred to shows operating costs of motor vehicles in the form of a pie diagram as follows: Gas and Oil, 1.92c, 18.7%; Maintenance 1.24c, 12.1%; Tires, .98c, 9.5%; License .59c, 5.7%; Garage .83c, 8.1%; Interest and insurance 1.55c, 15.1%; Depreciation 3.16c, 30.8%; Average 10.27c per mile.)

Query 34—"May we be furnished with the names and addresses of the manufacturers of gas-fired refrigerating machines, similar to those referred to on page 11, column 1, July 20 issue? We would like to have the names and addresses of not only those who are actually marketing this line, but of those who are fairly well advanced in their experimental efforts."

NEW BOOKLET AND LEAFLETS

Esotoo

The Virginia Smelting Company, West Norfolk, Va., has published a number of booklets concerning ESOTOO liquid sulphur dioxide. One deals with the physical properties of the product, another with tests for sulphur dioxide, and still another with the shipment in containers of different sizes and in multiple unit tank cars.

Electro-Kold

A folder picturing homes and apartments in which Electro-Kold refrigeration is in use has been issued by the Electro-Kold Corporation, Spokane, Wash., as the second of a series of letters directed to the housewife.

Ferro Enamel

Ferro Enamel Supply Company, Cleveland, O., has issued a small folder illustrated with small drawings—one drawing for each sentence—clever drawings and interesting sentences.

Cork Import

A folder from Cork Import Corporation, 345 West 40th Street, New York City, describes an installation of Novoid cork covering in a refrigerating company. It mentions three bulletins of interest to those who deal with insulations.

Iroquois

A new folder and a broadside from the Iroquois Electric Refrigeration Company, 1600 Arch Street, Philadelphia, Pa., picture models made by this company, describe them, and talk of its selling points.

Mechana-Kold

The latest circular published by the Mechana-Kold Corporation, Bay Shore, N. Y., has been received. Models of their refrigerators are pictured, and five questions regarding the machine are answered. Illustrations of freezing trays and of products of those trays are also used, with selling arguments for this particular form of electric refrigeration.

Russ

The Russ Manufacturing Company, 5700 Walworth Avenue, Cleveland, O., has issued three illustrated, colored broadsides which are being distributed also by Kelvinator and by Frigidaire, describing the Bilt-Rite instantaneous electric cooler. Models are shown for cafeterias, for offices, for factory installations. Some have remote compressor installations, and others are self-contained. One page illustrates the cooler in detail.

Bishop & Babcock

Bishop & Babcock Sales Company, 4901 Hamilton Avenue, Cleveland, O., has issued a folder illustrating and describing the Thermoelectric switch, developed for the manufacturers of small refrigeration apparatus. The folder is not in the detailed nature of a catalogue, but presents the information that is of general interest concerning these controls.

Acorn Opalite-Metal

We have received a folder from Acorn Opalite-Metal Specialties Co., Chicago, picturing and describing a line of coolers, cabinets, and fountains which are suitable for electric refrigerating units. Specifications and prices are given and the particular type of mechanical refrigeration suitable for use with each is included.

Hvid Ice Machine

A folder giving the first details of the Snow Queen electric refrigerator, manufactured by the Hvid Machine Corporation, First National Bank Building, Chicago, has been received. Ten points in the construction of the Snow Queen are discussed, as well as some technical points that are considered by its manufacturers as highly desirable.

Gurney

Data sheets pertaining to Gurney Ball Bearings in booklet form have been received from the Marlin-Rockwell Corporation, Jamestown, N. Y. The booklet is divided into five sections, dealing with dimensions and load ratings of the various types of bearings manufactured by the Gurney Ball Bearing Division of the corporation.

Kenosha, Wis., Salesmen Working Hard to Win Trip to Detroit

All of the salesmen of the Wisconsin Gas and Electric Company, Kenosha, Wis., local Kelvinator dealer, are very enthusiastic at the prospects of winning a free trip to the new five-million-dollar home of Kelvinator in Detroit.

They have entered the nation-wide contest, which started August 1 and terminates September 15, to determine the best Kelvinator salesman in the United States. Besides the first prize of a Detroit trip, there is a \$100 purse for second prize, and \$50 for third. Each man of the local organization is putting off his vacation until the contest closes, as they all feel that the last two weeks will determine the winner.

150 Attend Sales Convention of Boston, Mass., Company

The Home Electric Light and Power Equipment Company, Boston, Mass., held an outing and sales convention July 25. One hundred and fifty attended the meeting, which was one of a series held over the country by the divisions of Frigidaire Corporation.

Among those attending the convention were J. A. High, president of the Boston division; H. W. Newell, general manager; Peter McInerney, of the metropolitan division; H. G. Elrod, sales manager of the provincial division; David L. Philips, factory zone manager, and H. H. Kennedy, of the sales education division.

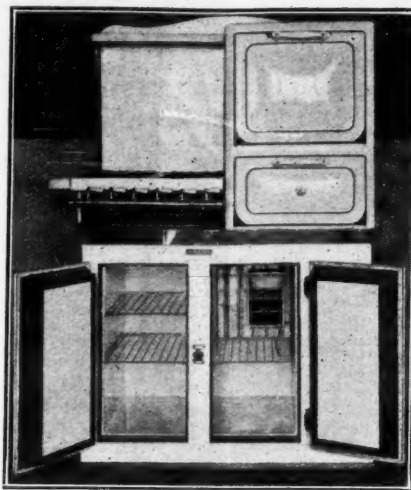
Marathon Develops New Motor

The Marathon Electric Company of Wausau, Wis., has developed a one-fourth horsepower repulsion-induction motor.

Has New London Agency

The Virginia Smelting Company, manufacturers of liquid sulphur dioxide, have recently made arrangements for an agency in London with West, Scholey & Hall.

REFRIGERATOR AND GAS RANGE COMBINED



The Electrolux Servel Corporation, New York, manufacturers of an absorption type refrigerator which may be operated by either gas or electricity, has recently developed a cabinet designed especially for a variety of combinations with other kitchen appliances.

First, the unit may be equipped with a flat porcelain top and used as a kitchen table. Arrangements have been made with a number of gas stove manufacturers to furnish stoves which may be placed on top of and attached to the refrigerator. Only one gas connection is required for both appliances. This combination will be on the market about September 1, 1927.

The manufacturer also reports that electric range manufacturers have been invited to design suitable electric range units for combination with the refrigerator when operated by an electric heater instead of gas.

They also believe that it will be possible to develop their absorption type equipment so that it may be operated by an oil heater and this suggests the possibility of a combination with an oil stove, thereby providing an equipment which will be suitable for farms, camps and other locations beyond the reach of public utility service.

"Cannot Comment Too Highly"

"I cannot too highly comment upon your paper, and the work it is doing."—A. S. Limpert, vice-president, Mechana-Kold Corporation, Bay Shore, N. Y.

"News" of Great Interest

"Your magazine is very good and of great interest to me."—Frank S. Peddle, 442 Lombardy Road, Drexel Hill, Pa.

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ELECTRIC REFRIGERATION NEWS has reached the point where it is necessary to advance the subscription rates. Effective September 15, 1927, the price will be increased to \$1.25 per year, or two years for \$2.00. On the same date the club subscription rate will be changed to \$1.00 per year in groups of five, that is, five subscriptions for \$5.00.

Until September 15 you are invited to take advantage of the present low cost, namely \$1.00 per year or three years for \$2.00. Note that the present club subscription rate is only \$0.75 per year in groups of ten, or ten subscriptions for \$7.50.

In the past, sample copies of ELECTRIC REFRIGERATION NEWS have been sent out freely to everyone known to be interested in the subject in order that all might become acquainted with the specialized service being rendered by this publication. Now that application has been made for the second class mail privilege, it will be necessary to restrict the number of sample copies which may be sent to any individual during a one-year period, in accordance with the regulations of the Postal Department.

Manufacturers, distributors and dealers are urged to take action immediately by bringing ELECTRIC REFRIGERATION NEWS to the attention of engineers, salesmen, service men and other members of their organization, and suggesting that they subscribe at once while the low rate is available and in order that they may receive the advantage of this educational news service.

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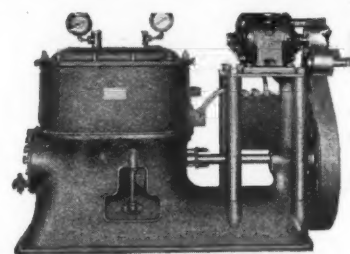
Electric Refrigerator Helps in Memphis Refugee Camp

The Electrical Equipment Co., Memphis, Tenn., supplied the Red Cross refugee camp of that city, during the recent Mississippi floods, with a Kelvinator, which was used for serums, vaccines and medical supplies which had to be kept at low temperatures. The use of the electric refrigerator made unnecessary the carrying back and forth from the city headquarters this material, while its lock made sure that the contents were not tampered with.

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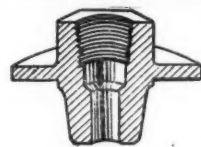
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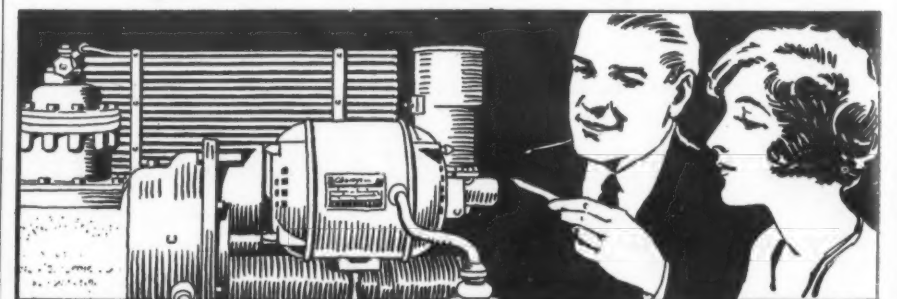
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